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INTRODUCTION

At its 248th Session (November 1990) the Governing Body of the International Labour Office decided to place on the agenda of the 79th Session (1992) of the International Labour Conference the question of the prevention of disasters by means of a major hazard control system.

In accordance with article 39 of the Standing Orders of the Conference, which deals with the preparatory stages of the double-discussion procedure, the Office drew up a preliminary report [1] intended to serve as the basis for the first discussion of this question. That report contains an introduction to the question and an analysis of the law and practice on the subject in various countries. The report, which concluded with a questionnaire, was communicated to the governments of the member States of the ILO, which were invited to send their replies so as to reach the Office by 2 October 1991.

At the time of drawing up the present report, the Office had received replies from the governments of the following 68 member States: Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Italy, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

The governments of 45 member States (Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Cameroon, Canada, Chile, Cyprus, Czechoslovakia, Denmark, Ecuador, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Iraq, Ireland, Kenya, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Saudi Arabia, Singapore, Spain, Sweden, Switzerland, Syrian Arab Republic, Turkey, Ukraine, USSR, United Kingdom, United States, stated that their replies had been drawn up after consultation with organisations of employers and workers, and some included in their replies the opinions expressed on certain points by these organisations, or referred to them. Other governments sent the observations from employers' and workers' organisations separately without referring to them, and in some cases replies were received directly from the employers' and workers' organisations.

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[1] ILO: *Prevention of industrial disasters*, Report V (1), International Labour Conference, 79th Session, Geneva, 1992.

This report has been drawn up on the basis of the replies received, the substance of which is given in the following pages with brief commentaries by the Office.[2] The Proposed Conclusions appear at the end of the report.

If the Conference decides that it is advisable to adopt one or more international instruments, the Office will draw up, on the basis of the Conclusions adopted by the Conference, one or more draft instruments to be submitted to governments. It will then be for the Conference to make a final decision on the subject at a future session.

[2] To meet the wishes of the Conference, an effort has been made to present the replies as concisely as possible.

REPLIES RECEIVED AND COMMENTARIES

This section contains the substance of the replies to the questionnaire which accompanied the preliminary report. Each question is reproduced and followed by a list indicating the governments that replied to it, grouped in accordance with the nature of the replies (affirmative, negative or other). Where replies are accompanied by qualifying remarks or explanations, the substance of each observation is given, in alphabetical order of countries, following the above-mentioned list. Where a reply deals with several questions, or refers to an earlier question, the substance of the reply is given under the first of these questions and is only referred to in the other questions. The replies are followed by brief Office commentaries referring to the corresponding Point or Points of the Proposed Conclusions at the end of this report.

Some countries replied indicating simply that the preliminary report formed a satisfactory basis for discussion, without giving answers to specific questions. Such replies have been taken as affirmative or negative answers as seemed appropriate in the context of the questions.

Some governments, in their replies, gave information on their national law and practice. Whilst most useful for the work of the Office, this information has not been reproduced unless it is necessary to an understanding of the reply. Affirmative or negative replies from employers' and workers' organisations and not accompanied by remarks are quoted only when they are contrary to the reply from the government, or when the government has not replied to the question.

In reply to Question 2 some governments expressed their preference for a Recommendation only, but nevertheless replied to subsequent questions which concern the content of a Convention; their observations should be understood accordingly.

While not included in the report, comments received from international and intergovernmental organisations have been of interest to the Office.

General observations

Bangladesh. Owing to financial constraints, countries like Bangladesh cannot afford to create the requisite administrative machinery to implement the proposed instrument. Resources are insufficient to ensure even routine inspection of safety measures in industrial establishments under existing legislation. Accordingly, no new instrument on this subject should be adopted.

Belgium. National Labour Council (CNT): The Council recalls that a Community regulation already exists concerning the hazards of major disasters in certain industrial activities (Directive 82/501/EEC of 24 June 1982, known as the "Seveso" Directive) and that this regulation extends to Belgium. It notes that the questionnaire was in large measure derived from this directive, and considers this to be positive. Nevertheless, the essential task is to devise an instrument or instruments acceptable to the largest possible number of member States.

Canada. Major Industrial Accidents Co-ordinating Committee (MIACC): MIACC is a national forum dedicated to the promotion of excellence in the fields of prevention, preparedness and response to major industrial accidents involving hazardous substances. MIACC develops processes, standards, guidelines, etc., that can be implemented uniformly in Canada. These are developed through consultation and cooperation with the members, which include the three levels of government, industry, associations, emergency response organisations, labour groups, public interest groups and academia. An example is the national standard on emergency planning for industry recently introduced in Canada.

MIACC members agree in principle with developing instruments for the prevention of industrial disasters and favour the adoption of a Convention supplemented by Recommendations. MIACC believes that, additionally, the Convention should be supplemented by standards, procedures, technical appendices, manuals, guidelines, training programmes and various technical assistance programmes.

In contributing to the OECD guiding principles for chemical accidents, prevention, preparedness and response in late 1990, MIACC referred to the ILO code of practice, *Prevention of major industrial accidents*, and to the necessity of linking together the two documents. International institutions interested in industrial accidents must all work together to harmonise their efforts and programmes.

Cyprus. Employers' and Industrialists' Federation: The tragic consequences of industrial disasters that took place throughout the world in the past years stress the need for the adoption of measures, at an international level, that would minimise and if possible efface such dangers that threaten humanity.

Industrial development and measures towards the safety and health of the employees and the protection of the environment can coexist. Within this framework the Federation will contribute to the conformation and adoption of principles that steer development in this direction and are at the same time widely accepted by the member States of the ILO.

Denmark. Danish Federation of Trade Unions (LO): The ILO already has a code of practice from 1991 concerning the prevention of major industrial accidents. At European Community level Directive 82/501/EEC (the so-called Seveso Directive) has been adopted with the same objectives as the ILO code of practice. The Commission is presently considering a revision of the directive, including the question of whether the scope of the directive should be extended to cover also the use and storing of dangerous substances and products. As mentioned on page 26 in the ILO Report V (1), a number of Conventions, standards, procedures, etc., already exist concerning transboundary environmental destruction and the transport of dangerous substances and products. Furthermore, work is going on within the framework of the United Nations with an ECE Convention concerning transboundary consequences of industrial accidents. The LO proposes that the work with the drafting of the texts for a Convention and Recommendation take place on the basis of a close cooperation between the ILO, the EC Commission, the IMO, the ICAO and other international organisations working to prevent or minimise the consequences of major industrial accidents.

Egypt. Small enterprises with major hazards are one of the difficult areas in the application of the instrument(s). They are numerous, at high risk and with staff with a low level of awareness; thus the need for training programmes for the workers of these enterprises and international support to raise their qualifications.

Finland. Finnish Employers' Confederation (STK): The prevention of major industrial accidents in Finland does not call for action by the ILO. The effects of major accidents usually extend outside the workplace. In such cases, it is not the relationship between employee and employer that is at issue, nor the related co-determination or safeguarding of interests. For instance, town planning is not part of the ILO's mandate. At any rate, the ILO should give greater consideration to what is reasonable and technically and economically feasible.

Commission for Local Authority Employers (KT): In general, international regulations on major industrial accidents are needed. Binding regulations might, however, be justified only in order to arrange for the international cooperation needed in the case of major accidents with effects extending beyond national borders. Protective regulations should rely on national legislation and practice and should define dangerous places, substances and quantities of substances. In each unit posing a risk, the employer and the employees should jointly draw up a regularly updated labour protection programme to map out risks and provide safety instructions, which would always be constantly visible and known to the authorities. The authorities should also monitor the quality of these programmes.

Central Organisation of Finnish Trade Unions (SAK) and Confederation of Salaried Employees (TVK): The instruments should indicate clearly where responsibility lies within an enterprise, and within the various units of group-structured enterprises (nationally and multinationally). The responsibility of employees with supervisory responsibilities should be proportionate to their real authority. Lastly, the instruments should require governments to set up national bodies to deal with the issues outlined in the ILO code of practice, *Prevention of major industrial accidents*, 1991.

France. The scope of the proposed instrument(s) seems to be too wide to fall under the mandate of the ILO, which is clearly that of protecting workers and improving their working conditions.

Italy. The Government fully agrees with the fact that the instrument(s) should ensure that all appropriate measures are taken to minimise the risk of major accidents. However, there are bodies and organisations in virtually all States which are specifically responsible for matters concerning the prevention of accidents. The instrument(s) should not interfere with these functions, but should establish provisions which harmonise with the functions of existing bodies, taking advantage of their experience. As regards the reference to the need to "minimise the risk", such a minimum should be quantified in terms of the plant and the respective environment, it being understood that it is impossible to reduce this risk to zero.

Japan. The establishment of systems of major hazard control at industrial sites is important in view of the need to protect workers, the public and the environment. The adoption of an international instrument or instruments for the prevention of industrial disasters laying down the methods of prevention is significant. However, the ILO instruments should be limited to methods for the protection of workers, and should refer to the public and the environment only as elements to be taken into consideration.

In Japan several measures for the prevention of industrial disasters are taken by the Ministry of Labour, the Ministry of International Trade and Industry, and the Fire Defence Agency. The Environment Agency is also responsible for protecting the public and the environment from the effects of major accidents.

In order to enable many member States to ratify a Convention, it should focus on broad general principles and be sufficiently flexible. The major hazard control system described in the report is an approach based on risk analysis reported in the form of a safety report. The approach taken in Japan is based on various laws and ordinances setting the standards for the location and structure of installations and also providing for the permission to build new installations, testing upon their completion, regular safety checks and the qualifications of operators. This system has been functioning effectively. Therefore, the new instrument(s) should allow for setting standards for installations and permitting the installations to operate when they meet the standards.

Japan Federation of Employers' Associations (NIKKEIREN): The primary concern of the new instruments to be adopted by the ILO should be limited to the protection of workers. Measures for the prevention of major industrial accidents should be flexible enough to accommodate various systems for the prevention of major accidents, depending on national circumstances and practices.

Japanese Trade Union Confederation (RENGO): The adoption of new international standards in the form of a Convention and a Recommendation on the prevention of industrial disasters is welcomed. The reasons are: (i) prevention of industrial disasters has

become a worldwide task; (ii) it is necessary also in Japan to strengthen systems for the prevention of industrial disasters; (iii) it is useful to incorporate into the prevention system the protection of inhabitants and protection of the environment.

The present Office text seems to have the following weaknesses: (i) trade unions in Japan play an important role in the protection of safety and health, but this role is rather weak in the Office text; (ii) the role of the State in the control of potentially dangerous installations is not sufficient; (iii) the concrete measures for the protection of inhabitants and the protection of the environment are not clear.

Netherlands. Council of Netherlands Employers' Federations (RCO): The prevention of industrial disasters is already the subject of various international regulations, in particular EEC regulations. Care should be taken that the new ILO standards are consistent with such existing standards s. as to avoid diverging demands on governments, employers and workers.

The proposed instruments lay significant responsibility on governments for the prevention of industrial disasters. This presupposes that government behaviour should be made subject to control. The instruments should include relevant provisions to this purpose, otherwise the implementation of these instruments will lack force.

Norway. Confederation of Trade Unions in Norway (LO): In the context of endeavours to prevent major accidents, it is necessary to keep in mind the trend towards increasingly complex and vulnerable production systems. This trend makes it necessary to identify hazards related to factors beyond the mere vulnerability of technical organisation. It is important that the entire complex of socio-technical system should be covered by the Convention. In its present form the proposed instrument appears at the outset to fail to give sufficient focus to the complexity and compact linkages which characterise modern systems. However, based on the points in the draft which touch on this aspect, it will be possible to accommodate this question in the work ahead.

Sweden. The development of a system for eliminating the underlying and direct causes of major accidents is an international task of great urgency. This being so, Sweden's tripartite ILO Committee finds it supremely appropriate and valuable that the ILO, from its own vantage point, should now have taken the initiative to bring about international regulations for the prevention of industrial disasters.

It is important, however, to recall that several international organisations, within the United Nations and elsewhere, have devoted varying degrees of attention to major accidents and are continuing to do so. This applies, for example, to the ILO/WHO/UNEP's International Programme on Chemical Safety (IPCS), the OECD, the Council of Europe and the EC. It is essential for the international work now in progress in this field to be coordinated as far as possible, so as to avoid unnecessary duplication, and for a consensus view to be applied to methods for the avoidance of industrial disasters. In this connection, the Committee is happy to note that the questionnaire prepared by the International Labour Office is to a great extent based on the 1982 EC Seveso Directive, which is currently being updated in the light of experience gained.

Switzerland. Basle Chemical Industries Association: Because a wide range of regulations at both the national and international level already exists for preventing and coping with major industrial accidents, the ILO should take account of such regulations, especially EEC Directive 82/501/EEC and the OECD guidelines in preparation. Individual States or groups of States should have the option of adopting more stringent regulations than those stipulated by the ILO. The principles for the prevention of industrial accidents should constitute guidelines in which objectives are set forth; it should be left to the executory State to decide which means and measures are to be used to achieve these objectives.

Central Union of Swiss Employers' Association (UCAPS): The Recommendation should provide for an international exchange of information and contacts on major accidents.

I. Form of the international instrument(s)

Do you consider that the International Labour Conference should adopt an international instrument or instruments concerning the prevention of industrial disasters through a system of major hazard control also called process safety management? **Qu. 1**

Total number of replies: 67.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Italy, Japan, Jordan, Kenya, Mali, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 2. Bangladesh, Spain.

Other: 1. Malta.

Australia. Such an instrument would facilitate consideration of the development of nationally consistent standards on the prevention of industrial disasters.

Australian Council of Trade Unions (ACTU): In relation to some aspects such as shipping and the international application of plant and equipment standards, an ILO instrument offers the only means by which control could be established.

Austria. Federal Chamber of Trade and Industry (BGW): Sufficient provision is made in Austria for such protection and an international instrument is not necessary.

France. National Council of French Employers (CNPF): It seems inopportune that the International Labour Conference should adopt one or several instruments for this purpose. ILO Conventions and Recommendations concern the relations between employers and workers, especially for the protection of the latter. Questions concerning the prevention of industrial risks, however, are more a matter of relations between employers and residents or employers and public authorities. The employer and workers are linked by the contract of work. The manager or entrepreneur certainly has duties towards the environment, but no contractual relations with the residents.

Therefore, other international bodies than the International Labour Conference are better qualified to approach the question of preventing industrial disasters.

It is true that installations which put the environment at risk frequently also endanger those working there, and in this respect the International Labour Conference is competent in matters concerning their protection. It is then no longer a question of preventing industrial risks as such, but of ensuring the health and safety of the workers, and instruments for this purpose already exist (in particular, the Occupational Safety and Health Convention, No. 155, and Recommendation, No. 164, of 1981). There is no need to create a new one.

India. It is stated that a system of major hazard control is also called process safety management. Major hazard control covers control of isolated storages of hazardous chemicals as well as pipelines conveying such chemicals. It would unduly restrict the scope of a system of major hazard control if it were to be limited to process safety management.

Japan. The instrument(s) should not be limited to the major hazard control system described in the ILO code of practice. The instrument(s) should be flexible enough to allow for other effective methods. For instance, legislation and ordinances would provide for such disaster-prevention measures as administrative control of the design, manufacture, construction, operation and maintenance of facilities.

Malta. The proposed texts constitute a satisfactory basis for discussion. Many of the provisions, however, could be difficult to apply in developing countries.

Spain. The International Labour Conference should not adopt international instruments in this field inasmuch as it lies beyond the objectives and functions of the ILO. The proposed instrument is designed not so much to protect the safety and health of workers — which is sufficiently covered by other instruments — but to protect the public as a whole and the environment against the risk of major industrial accidents; this is a subject which goes beyond the content of a social and labour policy (and its occupational safety and health aspect). It enters the field of industrial and environmental policy. Industrial disasters and their prevention are far more a matter for bodies responsible for environmental issues. Consequently, without wishing to deny the need to adopt active policies in these areas, such policies are not within the competence of the ILO.

United Kingdom. The scope should be defined using language familiar from the Seveso Directive, e.g. "major accidents" rather than "industrial disasters".

Confederation of British Industry (CBI): Yes, although the instrument should limit itself to major hazard control rather than the much more general issue of process safety management.

United States. As industry continues to expand globally, the need to address prevention of industrial disasters is apparent, especially for the protection of employees involved in the processing of hazardous materials.

Since all but three of the replies received were in the affirmative, the Proposed Conclusions provide for the adoption of two instruments concerning the prevention of industrial disasters *(Point 1)*.

Qu. 2 *If so, do you consider that the instrument(s) should take the form of:*

(a) *a Convention;*

(b) *a Recommendation;*

(c) *a Convention supplemented by a Recommendation?*

Total number of replies: 65.

Affirmative for the adoption of a Convention supplemented by a Recommendation: 52. Algeria, Argentina, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bolivia, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Romania, Suriname, Swaziland, Sweden, Syrian Arab Republic, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay.

Affirmative for the adoption of a Recommendation: 8. Bangladesh, Brazil, Japan, Jordan, Portugal, Qatar, Spain, Zambia.

Affirmative for the adoption of a Convention only: 2. Saudia Arabia, Sudan.

Other: 3. Singapore, Switzerland, Tunisia.

Australia. In the drafting of the instrument(s) adequate recognition should be given to the varying circumstances of member States.

Confederation of Australian Industry (CAI): A Recommendation.

Bangladesh. No new instrument should be adopted, but if the Conference Committee decides otherwise, then it should be a Recommendation. Replies to subsequent questions are given on this understanding.

Brazil. Gaucho Association of Labour Inspectors (AGITRA): A Convention supplemented by a Recommendation.

Canada. Canadian Employers' Council (CEC): This would depend upon the advantages and disadvantages of each of these alternatives.

Chile. Confederation for Production and Commerce (CPC): A Recommendation.

Denmark. Danish Employers' Confederation (DA): A Recommendation.

Finland. STK: A Recommendation. Its contents should correspond to the main international regulations and practices. It should not, however, include matters already covered by earlier ILO instruments.

Hungary. Some employers' organisations prefer a Recommendation.

Italy. General Confederation of Industry (CONFINDUSTRIA): A Convention supplemented by a Recommendation.

Japan. The instrument should take the form of a Recommendation so that member States may deal flexibly with the prevention of industrial disasters, depending on the national situation.

RENGO: A Convention supplemented by a Recommendation.

Mexico. Confederation of Mexican Workers (CTM): A Convention.

Netherlands. RCO: For the time being no Recommendation should be adopted. It is advisable first to implement the ILO code of practice, *Prevention of major industrial accidents*. Once experience is gained with the implementation of this code, the Convention might be supplemented by a Recommendation.

Portugal. The European Community regulation on the environment, public health and safety, namely Directive 82/501/EEC, is fairly exacting and thus prevents Portugal from making other commitments which may conflict with this regulation. For these reasons we believe a Recommendation is more suitable.

General Confederation of Portuguese Workers (CGTP): A Convention supplemented by a Recommendation.

Qatar. A Recommendation, in view of the importance of the subject and because it is easy for the Members to use the content of a Recommendation in their national legislation and in practical measures.

Singapore. Regardless of whether the instrument(s) take the form of a Convention or a Recommendation, it should take into account the different stages of social and economic development in the member States. Member States should have the flexibility to implement certain provisions in the instrument(s) according to their national peculiarities.

Spain. For the reasons stated in reply to Question 1 and as a last resort, the instrument might take the form of a Recommendation — which should be centred on those aspects more directly related to labour and occupational safety and health.

Switzerland. Certain elements still have to be specified, in particular the scope (which might for example be complemented by a list of dangerous substances); it would also be appropriate to provide greater flexibility in the application of the instrument (participation by workers, for example). In this context, please see the reply to Question 14.

Tunisia. The choice of the form of the instrument(s) will depend on the content of the obligations and the forms and scope of the supervisory machinery to be set up.

Turkey. Turkish Confederation of Employers' Associations (TISK): A Recommendation.

United Kingdom. The instrument(s) should not conflict with the EC Seveso Directive, which is undergoing fundamental review.

United States. United States Council for International Business (USCIB): A Convention supplemented by a Recommendation. The information needed to implement an effective major hazards safety programme is too detailed and complicated for a Convention, especially when well-recognised differences in national priorities and levels of economic development are taken into account.

Zambia. A Recommendation would serve as a good basis for formulating national policy and appropriate legislation.

A substantial majority of the replies to this question considered that the instruments should take the form of a Convention supplemented by a Recommendation and the Proposed Conclusions have been drafted accordingly *(Point 2)*.

II. Preamble

Qu. 3 *Should the instrument(s) contain a Preamble referring to relevant ILO instruments, including the Occupational Safety and Health Convention and Recommendation, 1981, and the Chemicals Convention and Recommendation, 1990?*

Total number of replies: 66.

Affirmative: 65. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. Gabon.

Brazil. AGITRA: No.

Finland. SAK AND TVK: A reference to the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, 1977, should be added to the Preamble.

Gabon. A Preamble is not necessary.

Gabonese Confederation of Free Trade Unions (CGSL): See the reply to Question 5.

Germany. German Confederation of Trade Unions (DGB): All ILO instruments should be referred to, including the Occupational Cancer Convention, No. 139 (1974).

Italy. CONFINDUSTRIA: Yes.

New Zealand. Inasmuch as previous Conventions have represented the ILO's developing strategy of improving global controls on occupational safety and health in general, and chemicals in the workplace in particular, the present proposed Convention on the prevention of industrial disasters represents a further step in the control framework. Links to existing controls are, in general, extremely important and should equally be visible.

Norway. In addition, reference should also be made to the Conference resolution of 1990 concerning environment, development, employment and the role of the ILO.

Portugal. CGTP: Particular reference should be made to the Occupational Health Services Convention and Recommendation, 1985.

All but one of the replies were in the affirmative and there were only three specific proposals to vary the content of the Preamble, each different. Accordingly, it has been included in the Proposed Conclusions without amendment *(Point 3)*.

Should the Preamble provide that the instrument(s) should have regard to the need to ensure that all appropriate measures are taken to minimise the risk of major accidents through control of the causes of such accidents and, in particular, those related to component failure, deviations from normal operating conditions, human and organisational errors, outside accidental interference, natural forces, and acts of mischief and sabotage? **Qu. 4**

Total number of replies: 65.

Affirmative: 63. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 2. France, Japan.

Australia. The terms "appropriate" and "minimise the risk" need to be defined. How appropriate measures are and how much risks are minimised is directly related to risk assessment, risk perception, and economics, and therefore can be liable to subjective judgement. The instrument should be aimed at reducing subjectivity as much as possible.

ACTU: The word "accident" should be replaced with "incident", "occurrence" or similar, as it is only in controlling the causes that the risk can be effectively minimised. The following factors should be added to the list of causes: poor planning; improper risk management; unsafe engineering practices; inadequately trained personnel, particularly the oft-cited problem of the use of contracting out maintenance with no control over the training of contractor employees; and disproportionate attention to production at the expense of safe systems of work and effective and comprehensive maintenance.

The Preamble should also indicate that all possible measures should be taken to eliminate, substitute or reduce the quantitites of hazardous substances as much as possible.

CAI: It should refer not only to appropriate measures to minimise the risk of major accidents, but should also refer to the need for appropriate measures to minimise the consequences of any accidents. This addition may be of particular relevance in circumstances where the cause of accidents is beyond the reasonable control of employers (e.g. accidents caused by natural forces or acts of mischief and sabotage).

Bolivia. The instrument should also have regard to other causes for more clarity and wider application.

Canada. Add "to the extent possible" after "control". Natural forces and acts of mischief and sabotage are less amenable to control than the other causes mentioned.

Czechoslovakia. The control of causes of accidents resulting from natural forces, acts of mischief and sabotage should be the subject of separate regulations.

Denmark. This should not be taken as suggesting a very detailed instrument.

Ecuador. The instrument should mention in the Preamble all preventive measures that tend to minimise the risks of major accidents.

Finland. STK: It might well be impossible in practice to take account of all the causes listed in Question 4, and to reduce the risks they pose. The criteria for identifying facilities at risk of major accidents and the obligation placed on the employer to identify facilities at risk under these criteria should be left to individual States.

France. The notion of a major accident can only be raised in the context of a work accident.

Gabon. CGSL: See the reply to Question 5.

Ireland. The Preamble should not be so detailed as to confuse the criteria in the text of the Convention.

Italy. CONFINDUSTRIA: Yes.

Japan. It is difficult to place major accidents resulting from outside interference, natural forces and acts of mischief and sabotage in the context of normal labour-management relations.

In order to make it clear that the instrument(s) is aimed at preventing industrial accidents which can affect the public and environment, the part of the sentence beginning with "to minimise the risk of" should be revised to read "to minimise the extensive risks of major industrial accidents which may involve the public and the environment as well as workers".

The part from "through control of" to the end should be deleted.

RENGO: Yes, but acts of mischief and sabotage should not be the main area of interest of these instruments.

Mexico. Acts of mischief or sabotage require a separate paragraph.

Netherlands. RCO: The words "through control of the causes of such accidents and, in particular, those related to" should be deleted. It is possible to make provisions with the purpose of minimising the risks mentioned in this provision, but it is impossible to "control causes" which lie beyond the employers' reach or responsibility. The same applies to the governments and workers.

Norway. The Preamble should in addition refer to the need for measures geared to damage limitation and accident preparedness.

Poland. The article should be drafted in such a way that the impossibility of implementing one of these elements does not prevent acceptance of the instrument as a whole.

Portugal. CGTP: Add the words "at work" after "organisational errors", and remove the reference to "human errors".

Tunisia. The scope should be extended to include the obligation to make provision for alert and rescue plans, etc.

United Kingdom. A shorter, less specific Preamble would be preferable. Delete "acts of mischief and sabotage".
CBI: A shorter, more general Preamble excluding acts of mischief and sabotage is preferred.

In their reply to this question and to subsequent questions several countries have discussed the extent to which the mandate of the International Labour Organisation extends to the protection of the public and the environment. Although the protection of the general environment may not, as such, be within the ILO's mandate, it is inconceivable to the Office that a system of major hazard control, which is designed primarily to achieve safety at the workplace, should not at the same time take into account, and provide for, the protection of the public and the environment, since they are likely to be affected by major accidents in the workplace.

Several replies seek to extend the scope of the question by referring to steps that should be taken to deal with the consequences of a major accident should one occur. These are reflected in an amendment which adds a reference to the need to mitigate the effects of a major accident. Regarding doubts expressed as to the extent of control possible in relation to some of the possible causes of major accidents, the words "control of" have been replaced by "action against". A number of individual replies sought definitions of various words and terms, or the insertion or deletion of certain words. These proposed amendments, however, did not coincide and they have therefore not been adopted. All but one of the replies were in the affirmative and the question appears with the amendments discussed in the Proposed Conclusions *(Point 4)*.

Should the Preamble provide that the instrument(s) should have regard to the need for cooperation within the International Programme on Chemical Safety between the International Labour Organisation, the United Nations Environment Programme and the World Health Organization, as well as with other relevant international organisations? **Qu. 5**

Total number of replies: 66.

Affirmative: 66. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Australia. Cooperation between international organisations dealing with similar issues is essential to avoid duplication of effort and to provide for effective use of resources in the evaluation and dispersal of information.

ACTU: The concept of international cooperation, and the specific organisations are all appropriate. Consideration should be given to cooperation with other international organisations and relevant international labour federations.

Canada. Add "and for coordination to avoid duplication and ensure consistency" after "cooperation". The Preamble should also make reference to the United Nations Committee of Experts on the Transport of Dangerous Goods, the International Maritime Organization, the International Civil Aviation Organization and the International Atomic Energy Agency. It could also include a reference to the possible establishment of coordinative bodies representing all international programmes, to ensure consistency.

Cyprus. The need for cooperation between the International Programme for Chemical Safety (IPCS) and other relevant international programmes should be emphasised.

Finland. Note should be taken of cooperation within other international organisations, especially the OECD.

Gabon. CGSL: While supporting the provisions in Questions 3, 4 and 5, the CGSL considers that cooperation within the International Programme on Chemical Safety should also involve international trade unions.

Ireland. The Preamble should also refer to the European Community Directive 82/501 on the major accident hazards of certain industrial activities.

Italy. CONFINDUSTRIA: Yes.

Japan. The meaning of "cooperation" should be clarified.

Malta. The involvement and coordination of member States should also be mentioned and even emphasised in the Preamble. For the prevention and control of major disasters, coordination and cooperation by States, especially neighbouring States, are essential.

Netherlands. RCO: A new provision should be added to the Preamble stating that existing international regulations should be respected. The new ILO instrument should at least meet the minimum requirements of such regulations.

New Zealand. Cooperation between international organisations is clearly essential with regard to uniformity and the need for recognition of the distinct role played by each of these various organisations in the global context.

Norway. Reference should be made to the environmental aspects of major accidents.

Poland. Reference should also be made to the IAEA, ICRP and UNSCEAR.

Portugal. Add "and regional" to the phrase "other relevant international". The EEC and OECD should be included in the list of international organisations.

Confederation of Portuguese Industry (CIP): There is no need to make specific reference to the International Programme on Chemical Safety.

Tunisia. The instrument should call for expanded cooperation within the framework of other programmes such as APELL.

USSR. There should be specific reference to the International Atomic Energy Agency (IAEA), and there should be reference to the need to avoid conflict.

United States. The Preamble should suggest cooperation with other relevant organisations such as the Organisation for Economic Co-operation and Development that are involved with the study and prevention of industrial disasters.

USCIB: The Preamble should also call for voluntary cooperation with trade associations with relevant specialised expertise.

All replies to this question were in the affirmative. Several replies proposed qualification or explanation of the word "cooperation", but in the view of the Office cooperation may take various forms and serve more than one purpose so that there would be no advantage in limiting its meaning. Although there are proposals to add references to other bodies by name, the great majority of replies was satisfied with a collective description. The term "intergovernmental" has been used as being more explicit than "international", as the nature and type of organisations envisaged were not as wide as a few replies suggested. With this amendment the question has been included in the Proposed Conclusions *(Point 5)*.

III. Definitions and scope of the international instrument(s)

Should the instrument(s) provide that "major accident" should mean an unexpected, sudden occurrence, including, in particular, a major emission, fire or explosion, resulting from abnormal developments in the course of an industrial activity, leading to a serious danger to workers, the public or the environment, whether immediate or delayed, inside or outside the installation and involving one or more hazardous substances? **Qu. 6**

Total number of replies: 68.

Affirmative: 61. Algeria, Argentina, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Chile, China, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 7. Australia, Canada, Cuba, Italy, Japan, Malta, Switzerland.

Argentina. The Industrial Union of Argentina (UIA): Redraft as follows: "'Major accident' should mean an unexpected and sudden occurrence producing an emission, fire or explosion the scale of which is likely to cause serious danger of death, whether immediate or delayed, to workers and to the neighbouring populations; or produce irreversible damage to the environment; or lead to the total destruction of installations considered of strategic importance to the economy or to public health in general." This would require a definition of industrial installations of strategic importance to the economy or the health of the population.

Australia. The terms "serious danger" and "major emission" should be defined or explained.

ACTU: "Incident" or "occurrence" should be substituted for "accident" throughout the instrument(s). The causes of 'major incidents" are by no means limited to "abnormal" circumstances. Many major hazard installation disasters have occurred through events which are not abnormal and are in fact the product of a failure of the enterprise (for example, failure to establish adequate maintenance programmes or lack of up-to-date training).

Belgium. The term "abnormal developments" could be replaced by "uncontrolled development". The overall problem of the controlled production and processing of waste, which in some cases may lead to "silent accidents", is adequately covered by the provisions of the Chemicals Convention, 1990 (No. 170), or by other international instruments. Only sudden and uncontrollable occurrences should be covered by the Convention; this would exclude long-term and low-level exposure and pollution.

Bolivia. The definition should also include other occurrences such as floods.

Canada. Replace "unexpected, sudden occurrence", with "occurrence which is unexpected and sudden, or unplanned, or unknown to the authorities for a period of time". The term "unexpected, sudden occurrence" is too narrow and would not include, for example, major accidental releases of hazardous substances which may be gradual and foreseen, such as a fire in a pesticides warehouse in which a toxic plume is formed regarding which sufficient warning can be given to protect the public; occurrences involving underground storage tanks; or pollution of the groundwater of a municipality arising from a major industrial activity.

Add "in the course of its/their manufacture, use, storage, handling or disposal" after "involving one or more hazardous substances", as in the definition proposed by the MIACC. This would clearly indicate the activities relating to hazardous substances which would be covered by the definition.

As regards the transport of hazardous substances, see the reply to Question 9 *(a)* (iii).

Canadian Labour Congress (CLC): "Substances" should include "forms of energy".

MIACC: The definition should be extended to the different modes of transport, i.e. pipeline, rail, road, air and marine. It is also desirable that storage sites, e.g. warehouses, trucking terminals, water treatment plants, etc., be included.

The terms "serious" and "hazardous substances" should also be defined along the lines of MIACC's definition of the term "major industrial accident": "A major industrial accident is an event that can occur during manufacturing, use, transport, storage, handling or disposal of dangerous substances, which may result in a release, in such quantities, so as to cause serious damage or pose a significant risk to health, life, property or the environment in the immediate neighbourhood of the accident site."

The term "unexpected, sudden occurrence" may be too exclusive and does not, for instance, cover underground storage tanks. All definitions used here and by other organisations must be compared with one another, to ultimately have one uniform definition per term for use by all interested parties in this field.

Cuba. The following definition is proposed: "'Major accident' should mean an unexpected, sudden occurrence, in particular, a major emission, fire or explosion, resulting from an industrial activity, and leading to injury or death, or posing a serious

danger to workers, the public or the environment, whether immediate or delayed, inside or outside the installation."

Cyprus. Abnormal developments are not necessarily confined to industrial activities. Therefore the definition needs to take into account other activities such as, for example, the handling of dangerous substances in a storage facility.

Czechoslovakia. "Major accident" should be defined in quantitative terms; for example, the extent of the territory affected, the number of persons affected, the degree of affliction, the volume of hazardous substances which have been emitted into the environment and the associated health risk; moreover, the type of the unexpected event should be specified, i.e. accident, disaster, ecological catastrophe.

Ethiopia. Damage to property should be included in the definition of "major accident".

Finland. The definition should conform with the Seveso Directive.

SAK and TVK: The word "sudden" should be either broadly interpreted or replaced by a wider concept, since the instrument(s) should cover major accidents regardless of the period over which they develop.

France. As long as this applies to the workers.

Germany. DGB: The definition should also include normal emissions.

Hungary. A more precise definition is needed.

India. An abnormal development which is under control may not lead to a major accident. Therefore, the term "uncontrolled developments" may be more appropriate than "abnormal developments". Also, the proposed definition does not bring out clearly the possibility of a major accident being caused by natural events such as floods, earthquakes, etc.

Iraq. Add accidents resulting from the seepage of hazardous, radioactive or toxic substances to the environment surrounding the installation. This would be in addition to accidents resulting from a sudden occurrence, fire or explosion.

Ireland. The definition should include the terms "uncontrolled developments" and "sudden occurrences".

Italy. An accident whose consequences, whether immediate or delayed, are limited to the installation, may fall within the scope of the preventive measures introduced by the existing institutions and bodies. This definition makes no provision for a lower limit as regards consequences, in particular for the workers concerned, and thus a normal accident, which is already covered by other legislation, would be transformed into a major accident simply because it occurs in a specific kind of plant or because it involves a specific substance. The definition of a major accident could perhaps be limited to accidents which have consequences outside the plant, which affect the population and the environment, and which call for an emergency response.

CONFINDUSTRIA: Yes.

Japan. Member States should be allowed to define the term "major accident" in their own legislation, in the light of domestic situations. It is unreasonable to ask member States to work out a unified, single policy to expand the scope of major disaster control to the general environment, in other words, beyond workers and the population and in the immediate vicinity. The instrument(s) should state clearly that its objective is to protect workers, and that other safety and environmental protection measures should be consistent with the policy of protecting workers.

RENGO: Terms such as "unexpected" and "sudden" should be re-examined in order to broaden the definition of major accidents.

Malta. The definition should be more flexible to take into consideration unexpected and as yet undefined "major disasters".

Mexico. The definition does not include reference to acts of mischief or sabotage.

Mexican Confederation of Chambers of Industry (CONCAMIN): After "emission"

add "into the atmosphere or water". Not only atmospheric emissions are harmful: the same is true of emissions into rivers or seas.

Netherlands. An attempt should be made to define the terms "major accident", "hazardous substance" and "hazard".

New Zealand. There is a range of definitions for "major accident" and related terms in the legislation pertaining in various jurisdictions. It is recognised that any definition of such a general concept as a major accident will create debate; the fundamental necessity is to agree on a definition that is acceptable to a wide range of parties and which provides consistency between instruments. In this context the proposed definition achieves these ends.

Norway. Reference should be made to hazardous substances at the beginning of the definition to make this limitation absolutely clear. (See also point 1.2.1 of the ILO code of practice.) "Industrial activity" must be defined so as to confine such activity to the plant area and other fixed installations such as storage areas.

Spain. The word "major" when referring to an explosion should be deleted, as it is ambiguous.

Sweden. Various international organisations should aim for a common basic definition of "major accident". This will enhance the prospects of similar approaches and responses in connection with preventive work.

Switzerland. In Swiss regulations, the concept of "major accident" is confined to any extraordinary event occurring in an enterprise or in transit, which has serious consequences *outside the enterprise or on or around the transit area.* This approach is justified by the fact that the protection of workers, at the workplace or in its immediate environment, is covered by specialised legislation. In these circumstances, the definition which appears in the proposed instrument should take account of the specific characteristics of national legal systems, provided that an equivalent level of protection is ensured.

Tunisia. The scope of the proposed definition should be extended to the entire production process, including transport.

USSR. There should also be definitions of the terms "major emission", "major fire" and "major explosion" since even minor events of such nature may be dangerous for workers at an industrial installation.

United Kingdom. The Seveso Directive wording, "uncontrolled developments", is preferred to "abnormal developments".

Trades Union Congress (TUC): "Major emission" may be either into the air or through the ground; and there should be no limit on the period of time in the case of a delayed threat.

United States. Although the definition of "major accident" is appropriate, it may be beneficial to require the employer to address "incidents" as well. Incident investigations can be of greater use to industrial accident prevention investigation since there are more incidents than major accidents.

USCIB: Yes, but other terms within the definition of "major accident" also need to be defined, e.g.: What constitutes a "delayed" serious danger, for example, with respect to genotoxic, neoplastic, teratogenic effects? What are the definitions of "major emission, fire or explosion", of "serious danger" and of "hazardous substance"? There are at present varying national and international definitions.

There are conflicting replies as to whether major accidents necessarily arise from sudden and unexpected occurrences. In the view of the Office it may be said that the occurrence which initiates a chain of events leading to a major accident can be so described, even though the consequences may be delayed or

prolonged. The term "industrial activity" is considered to embrace the variety of situations in which hazardous substances may be found and where there is a risk of a major accident, e.g. storage facilities.

There are proposals that individual words or terms should be defined or further explained. The Office is reluctant to apply definitions to familiar words which may have the unwarranted and unforeseen effect of limiting the scope of the proposed instrument(s) in the wide variety of situations to which it will apply. It has, however, introduced the definition of hazardous substances as central to the proposed instrument(s). The reference to substances is believed to exclude biological agents. The term "uncontrolled developments" is preferred to "abnormal developments" by several countries, but as the great majority of replies accept the latter term it has been left unchanged.

A number of alternative definitions are offered, none of which would appear to meet all of the objections to the proposed definition. The Office concurs with the views of the Governments of New Zealand and Sweden that a definition should be sought which is widely acceptable and consistent with definitions already in use.

With drafting amendments intended to improve the understanding of the provision, it is included in the Proposed Conclusions with a view to a Convention *(Point 6)*.

Should the instrument(s) provide that "major hazard installation" should mean both an industrial installation which stores, processes or produces hazardous substances in such a form and such a quantity that they possess the potential to cause a major accident, and an installation which has on its premises either permanently or temporarily a quantity of a hazardous substance which exceeds the amount, known as the threshold quantity, prescribed in national laws or regulations concerning major hazards? **Qu. 7**

Total number of replies: 66.

Affirmative: 61. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Chile, China, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. Japan.

Other: 4. Canada, Cuba, France, Tunisia.

Australia. Installations such as transport depots should definitely be included in the instrument(s) under the definition of "major hazard installation". The risks for such an installation may be higher than for a permanent installation because of the associated hazards of materials handling.

The term "temporarily" will need to be defined.

ACTU: All transport mechanisms, i.e. road, rail and particularly shipping, should be covered by the instrument(s). The definition of "major hazard installation" should not exclude premises which may pose the same sorts of risks to the populace — e.g. health premises. Countries which ratify the Convention should be required to identify the scope of the installations covered.

CAI: The need for the additiona' reference to installations which have hazardous substances on site only on a temporary basis is questioned, as is the question of whether the definition of "major hazard installation" is affected by the particular location of such installations and accordingly whether a reference to this context should also be included.

Belgium. It is also important that preventive measures be divided into two levels of requirement: general and specific. Specific requirements should be applied to major hazard installations in which the nature, processing or quantity of chemical products makes a situation particularly dangerous. The two levels of action could be implemented through the creation of an "action quantity" and, at a higher level, a "threshold quantity". The instrument(s) would be ineffective if all measures had to be applied to all installations covered by the Convention. The question of transport of chemicals within the enterprise needs to be examined.

CNT: In the Seveso Directive, consideration is given to three important criteria concerning dangerous substances: type of activity, nature of the substance and quantity of the substance.

Regarding the definition of thresholds, moreover, in order to avoid a considerable variation in the prescribed quantities and a consequent weakening of the real impact of the instrument or instruments envisaged, it would be preferable not to leave this for the member States alone to decide. The thresholds should be determined by the International Labour Organisation.

Brazil. AGITRA: As most countries have not attained the same level of development as the European Community countries, the EC Directive (82/501/EEC) should be included in this Article in the form of an annex.

Canada. Add "whether publicly or privately operated" after "industrial installation" to make clear that installations operated by municipalities and government agencies are covered along with those in the private sector.

Add, in line 2, "as established or adopted by the competent authority" after "hazardous substances". See also the reply to Question 13.

Add "either alone or in combination with other hazardous substances present in the installation" after "in such a form and such a quantity that". This would cover the situation where there is potential danger from the interaction of two or more substances.

CEC: Yes, provided that the term "industrial installation" includes installations operated by municipalities, government agencies, etc. (e.g. chlorine for water treatment), and not simply those of the private sector.

CLC: It is assumed that national governments will define "threshold quantities".

MIACC: International recommendations and national laws and regulations would benefit from a model list of hazardous substance threshold quantities in order to obtain international uniformity and avoid lax standards.

Ecuador. After the words "industrial installation" add "or warehouse".

Egypt. Major hazard installations should not be confined to industrial installations but should include installations storing pesticides and the transport of flammable and explosive substances.

Finland. The definition should conform with the Seveso Directive.
SAK and TVK: The ILO should set threshold quantities for at least the most important substances.

France. The notion of major hazard installation applies only in the context of protecting the public.
CNPF: No.

Hungary. In line 2 the order of reference should be "produces, processes and stores".

Iraq. Provided the definition includes "handling". There should also be reference to semi-processed hazardous substances.

Ireland. Only one threshold level is envisaged in the proposal. The two threshold levels set in EC Directive 82/501 should be adopted. The threshold levels should also refer to the transport of chemicals at the industrial installation.

Italy. CONFINDUSTRIA: Yes.

Japan. Member States should be allowed to define "major hazard installation" and "threshold quantity" themselves under their own laws and ordinances according to their domestic situations.

Mexico. Include transport of quantities exceeding the threshold quantities.
CONCAMIN: There should be a wider definition of industrial installation in terms of what may cause a major accident.

Netherlands. A clear definition of major hazard installations, identifying substances and threshold quantities, is needed.

New Zealand. Similarly to the response to Question 6, the definition of the term "major hazard installation" within the proposed Convention should be the same as that contained in the ILO code of practice, given that the latter is a key resource document to be associated with the former.

Norway. Further consideration should be given to the use of "threshold quantities", inter alia in relation to other ongoing work on international regulation of this field, where criteria of a more qualitative nature are currently gaining a foothold. This point should therefore be given a more general formulation.

Portugal. CIP: The situations mentioned are all very diverse and thus deserve to be treated individually. The definition of "major hazard installation" should cover only those installations which, in the normal course of their activity, may either permanently or temporarily possess the potential to cause a major accident.

Swaziland. The scope of the instruments should include quarries and similar work sites where explosives are stored or used.

Tunisia. The threshold quantity is not the only criterion to be used; other less important criteria should also be applied, such as the nature of the product and the kind of hazard involved.

United Kingdom. The Convention should have two tiers, with the more onerous duties applying only to the top tier, where the scope would be restricted by higher quantity thresholds. It should set minimum values for these quantity thresholds. The scope should be defined to include premises where the dangerous substances are liable to be present, and "storage" should be defined so as to apply the Convention to premises such as distribution depots and transfer stations where the quantity thresholds are exceeded.
CBI: The following wording is suggested: "'major hazard installation' should mean an installation that has on its premises either permanently or temporarily a quantity of a hazardous substance that exceeds the amount known as the threshold quantity and that is in a state capable of causing a major accident".

TUC: The instrument(s) should reflect the need to recognise the risk which occurs from the interaction of two or more substances on site, even where they do not reach individually or separately, their "threshold quantity" levels.

United States. Since the national definition of a "major hazard installation" is an installation that has "any use, storage, manufacturing, handling, or movement (on site)" of hazardous substances, the addition of "handling and movement" to the above definition is suggested.

USCIB: Some other term than "major hazard installation" should be used (e.g. "covered installation") because the installation concerned, as the definition acknowledges, may be only "potentially" a major hazard. In addition, the instrument should establish a definition or criteria for "threshold quantity" at realistic levels.

Several replies suggest that the definition should refer to specific types of premises such as transport depots, agricultural premises or those operated by municipal or government authorities. The Office takes the view that the term "industrial installation" is wide enough in meaning to include such premises without the need for qualification. It has, however, added reference to "handling" (which it believes will cover transport on the site) and "using" to the types of activities carried on in the installation.

The definition has been redrafted without any intention to change the meaning, to make it clear that a major hazard installation may fall into one of two broad categories; since a majority of such installations are likely to be identified by reason of threshold quantities, this category has been placed first. The second part of the definition is thought to be adequate to cover situations where there is danger from the aggregation or interaction of substances which individually do not exceed the threshold quantity or where other special conditions exist.

Some replies refer to the desirability of introducing a two-tier definition with two levels of action whereby only the higher quantity of a hazardous substance would attract the more onerous duties. The Office does not believe that the present definition, coupled with the definition of threshold quantity, excludes such a system; however, on the basis of the large number of affirmative replies to the questionnaire, the Office would not wish to make such a system mandatory. With the amendments discussed, the question has been included in the Proposed Conclusions with a view to a Convention *(Point 6)*. The Office has thought it expedient to include all defintions in the same Point.

Qu. 8 *Should the instrument(s) provide that "threshold quantity" should mean that quantity of a listed hazardous substance present or liable to be present in an installation which, if exceeded, brings the installation within the category of a major hazard installation?*

Total number of replies: 67.

Affirmative: 61. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China,

Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. Japan.

Other: 5. France, Italy, Malta, Norway, Sweden.

Argentina. The threshold quantity should depend not only on the type of substance but also on the age of the installation and its location in relation to the population settlements and natural resources to be protected.

Australia. The instrument(s) should also cover high-hazard volumes of unlisted substances which possess hazardous properties of the type to be defined in a schedule. Provision should also be made for several "threshold quantities" by means of which various levels of control can be involved.

ACTU: This is a critical issue which will have a fundamental bearing on the effectiveness of the instrument. Efforts must be made to ensure that the criteria used for the inclusion in the list of hazardous substances and the establishment of the "threshold quantity" will be consistent internationally. Such criteria should ideally be consistent with the "best" international practice.

Consideration should also be given to classifying an installation as a "major hazard installation" if a number of listed hazardous substances are or are likely to be present, albeit in quantities which, individually, are less than those designated as "threshold".

CAI: There could also be instances where substances present on a particular site do not, when judged on an individual basis, exceed the "threshold quantity". Those substances, however, when considered as an aggregate, could represent a substantial risk which may justify classifying the premises as a "major hazard installation".

Belgium. The Convention should not restrict itself to a list of dangerous products, since such a list should be updated on a regular basis by Members, and the Convention would, therefore, soon be out of date. Instead, it should list the categories of products and preparations as defined by a system of classification (see the Chemicals Convention, 1990 (No. 170)), as well as established action and threshold limits. The Recommendation, by way of example, could also list chemical products. Similar lists already exist in EEC Directive 82/501/EEC.

Bolivia. It is not possible to consider a "threshold quantity" in general, since the limits depend on many factors which should be taken into account, substance by substance, region by region, by reference to such factors as temperature, etc.

Canada. An added factor would be the risk arising from the potential for interaction of two or more hazardous substances.

MIACC: The threshold quantity will identify a major hazard installation, but it will not necessarily identify a high-risk location, e.g. a warehouse in a residential area. Such other factors as the density of population in the vicinity of an installation, the availability of resources (human and equipment) to deal with an emergency, the level of training of employees and local emergency responders, may make a defined threshold quantity irrelevant.

Chile. Each member State should specify the threshold quantity for each dangerous substance.

Czechoslovakia. The term "critical quantity" should be used instead of "threshold quantity".

Ecuador. The "threshold quantity" should be determined for each hazardous substance that could give rise to a major accident.

Finland. The definition should conform with the Seveso Directive. A hazardous substance may also mean a group of substances with similar properties.

France. The term "threshold quantity" applies only to evaluate the exposure of workers. The notion of classifying the establishment has a wider scope than that of the instrument.

Germany. DGB: Due regard should also be taken of emission levels and not only threshold quantities.

Hungary. Reference should be made to the possibility of changes if technologies develop.

Ireland. Because of the constraints when discussing the proposals at the Conference, the threshold levels currently being discussed at EC level on the fundamental review of Directive 82/501 are recommended.

Italy. The classification of a plant as a "hazard installation" depends, in most cases, on the threshold quantity of the product. Products with similar characteristics and hazard potential, are thus considered in relation to the specific threshold without account being taken of the circumstances which might be involved in an accident. Attention could perhaps be given to the possibility of introducing a criterion concerning the additive effects of substances which could be used for the classification of a plant.
CONFINDUSTRIA: Yes.

Japan. See the reply to Question 7.

Mexico. There should be additional criteria relating to toxicity, explosion, radiation, etc.

Netherlands. Netherlands Trade Union Federation (FNV): The threshold quantities should differ depending on type of hazardous substances.
RCO: The emphasis should be placed on dangerous intrinsic properties rather than substances.

New Zealand. The need for compatibility with the ILO code of practice as the supporting instrument is paramount here.

Norway. Safety cannot be assessed exclusively in relation to the quantity of a substance. Before an installation can be designated as a "major hazard installation", an overall assessment must be made in which the quantity of a substance is but one of the parameters in a risk analysis which takes in the entire process. Such analysis must be applied to enterprises which store, use or produce hazardous substances.

Portugal. CIP: A threshold quantity should only be of significance in determining the category of major hazard installation.

Sweden. A definition of "threshold quantity" should not imply that a major accident cannot occur until a given threshold is reached. Accidents involving quantities below the threshold can have severe consequences, both within an industrial facility and outside it.

Tunisia. See the reply to Question 7.

United Kingdom. Substances should be grouped into generic categories such as "toxic" or "highly flammable", with the threshold quantity being the total for all substances within a given category.
TUC: There is concern at what would appear to be a reliance on the use of threshold quantities. The TUC would wish to see an approach which called for an assessment of the risk from particular substances or operations and for an appropriate safety case to be

developed, rather than depend on the "trigger" mechanism of a threshold quantity level. The setting of threshold levels by national laws is open to heavy lobbying or pressure by corporations and employers' organisations. In countries where there is no employee representation or environment lobby the setting of threshold quantities could be open to abuse.

United States. USCIB: The "liable to be present" standard found in the definition is too speculative and will create unnecessary reporting requirements. Furthermore, the definition would be more useful if certain issues regarding quantities are clarified, such as the standard to be used to determine quantity levels and criteria for aggregation of quantities.

In reply to this and the previous question some replies have suggested that the instruments should contain a list of substances with their threshold quantities. Because of the enduring nature of the instruments, the need to avoid an excess of detail, and the known and probable changes in threshold quantities, the Office believes this to be inappropriate. It notes that it has already been necessary to amend other intergovernmental standards in this respect and that there is a diversity of views in the replies as to how threshold quantities might be assessed. It is thought preferable to leave prescription to member States, which will be guided by criteria already adopted by intergovernmental agencies. The issue of aggregating substances present on a site has been discussed in the commentary on the previous question.

Some replies mention that a quantity of a hazardous substance should be only one of the parameters in defining a major hazard installation (see also the commentary on the previous question). The present definition referring to quantity is not, however, seen as being exclusive. Nor in referring to a hazardous substance are intermediate products eliminated from consideration. As the substantial majority of replies were in the affirmative the question has been included in the Proposed Conclusions with a view to a Convention *(Point 6)*.

Should the instrument(s) provide that: **Qu. 9**

(a) *the following installations and branch of economic activity be excluded from their application:*

  (i) nuclear installations and plants processing radioactive substances;

  (ii) military installations;

  (iii) transport outside the establishment other than by pipeline;

(b) *a Member may, after consultation with the representative organisations of employers and workers concerned, exclude from the application of the instrument(s) such further branches of economic activity as may be appropriate?*

Total number of replies: 66.

Affirmative: 48. Algeria [negative to *(a)* (ii)], Argentina [negative to *(b)*], Bahrain [negative to *(a)* (i) and (iii)], Bangladesh, Belgium, Brazil, Cameroon, Canada [negative to *(a)* (ii)], Chile, China [negative to *(a)* (i) and (iii)], Cuba [negative to *(b)*], Cyprus, Denmark [negative to *(b)*], Egypt [negative to *(a)*(i) and (ii)], Ethiopia, Finland [negative to *(b)*], Gabon [negative to *(b)*], Germany [negative to *(b)*], Hungary, Iceland [negative to *(a)*(i) and (ii)], Indonesia, Iraq [negative to *(a)* (i)], Ireland, Japan, Jordan, Kenya [negative to *(a)* (i) and (iii)], Morocco, Myanmar [negative to *(b)*], Netherlands [negative to *(b)*], New Zealand, Nigeria [negative to *(a)* (ii)], Norway [negative to *(b)*], Pakistan, Portugal, Qatar, Saudi Arabia, Singapore, Spain [negative to *(b)*], Sudan [negative to *(a)* (i) and (iii)], Suriname [negative to *(a)* (i) and (iii)], Sweden [negative to *(a)* (i) and (ii)], Switzerland, Syrian Arab Republic [negative to *(a)* (ii)], Tunisia [negative to *(a)* (ii)], Turkey, USSR, United Kingdom, United States.

Negative: 17. Belarus [affirmative to *(a)*], Benin [affirmative to *(b)*], Bolivia [affirmative to *(b)*], Czechoslovakia, Ecuador, France [affirmative to *(a)* (ii)], Italy, Mali [affirmative to *(b)*], Malta [affirmative to *(b)*], Mexico [affirmative to *(a)* (ii) and (iii)], Nigeria [affirmative to *(b)*], Poland [affirmative to *(a)* (ii)], Romania [affirmative to *(b)*], Swaziland, Ukraine [affirmative to *(b)*], Uruguay [affirmative to *(a)* (ii)], Zambia [affirmative to *(b)*].

Other: 1. Austria.

Australia. (a) (i) These installations should be excluded only where they are required by law to abide by IAEA principles, NUSS standards and guides, and are under the general supervision of the IAEA.

(a) (ii) Military installations should not be excluded. However, for security reasons, the instrument(s) would need to recognise that the administration of the regulations in this area may need to be carried out by a national security organisation.

(a) (iii) This category should be excluded from the instrument(s). The transport of dangerous goods, including environmentally hazardous materials, is, and should be, covered by specially designed transport regulations based on the recommendations of the United Nations Committee of Experts.

(b) The instrument(s) should define the circumstances in which exclusion would be considered appropriate.

ACTU: No kinds of installations or branches of economic activity should be excluded from this instrument; nor should the code of practice allow exclusions. After all, the implications and effects of exclusions go beyond the "employers and workers concerned" to the people who live and work in the area both nearby and farther afield. Mechanisms through which exclusions may be allowed, if any, should be defined and should be subject to international consistency, so far as practicable.

CAI: *(a)* The installations and activities listed in this question are already covered by specific control mechanisms.

Austria. These exclusions can be justified only if these particularly dangerous installations are covered by their own safety guidelines. Otherwise, they should be included in the instruments.

Belgium. (a) The exclusion of nuclear installations and plants processing radioactive substances should cover only the *nuclear* aspect of these installations. For example, the conditions for storing non-radioactive chemical products should also be covered by this instrument(s).

(b) There must be good reasons in support of such exclusions.

Benin. (b) Yes, but after consultation with competent national and international organisations.

Bolivia. (a) (ii) They should be excluded whenever they do not employ more than 50 per cent civilian staff and are not situated near densely populated areas.
(a) (iii) These sectors should not be excluded since, one way or another, they have links with producers and receivers of hazardous substances.

Brazil. AGITRA: Negative to *(a)* (ii) and (iii). *(b)*: Add the words "if any" after the word "concerned".

Canada. Fishing could be excluded given its unique circumstances. The instrument(s) should apply to offshore oil and gas drilling and operations in the light of the Ocean Ranger disaster.
(b) Add "and with other persons or groups who may be affected" after "representative organisations of employers and workers concerned", since the scope of the proposed instrument(s) includes broad issues of public emergency planning and environmental protection which may affect others as well as employers and workers.
CLC: No.
MIACC: *(a)* (iii) No.

Chile. (b) This should depend on the stage of development of each member State, thus making the instrument(s) flexible.

China. (a) (iii) No. The safety of transport inside factories should be administered by labour departments.

Cuba. (b) The decision to exclude a branch of economic activity should be communicated to the ILO and incorporated into national legislation.

Denmark. (b) No, as such a possibility could give rise to different interpretations in the various countries.

Ecuador. (a) No, unless other specific instruments provide for inspection.

Ethiopia. The instrument(s) should extend to all industrial installations in every sector except those excluded by the competent authority.

Finland. Only transport proper using various modes of transport should be excluded from the scope of application. The loading and unloading of hazardous substances, and their temporary storage in railway yards and harbours, should be covered by the instrument(s).
SAK and TVK: The possibility of including all transport operations should be investigated. Facilities where safety regulations and supervision are poorer than those envisaged by the instrument(s) should not be excluded.

France. French Confederation of Executive Staffs (CFE-CGC): *(b)* No.

Gabon. CGSL: *(a)* No. *(b)* This may be acceptable.
Gabon Employers' Confederation (CPG): *(a)* (iii) No. *(b)* Yes.

Germany. (b) A transitional period and a partial exemption seem to be more reasonable.

Hungary. Some employers' and workers' organisations disagree with *(b)*.

Iceland. (b) Local authorities and other authorities concerned should also be consulted.

Ireland. (a) (i) The exemption should only cover the nuclear aspects of nuclear installations.
(b) It should be demonstrated adequately before an exemption is given, that the risk of a major accident is so remote that it can be dismissed.

Italy. High risk installations should also include transport (road, railway, pipeline) and the related storage areas.
CONFINDUSTRIA: *(a)* No. *(b)* Yes.

Japan. (a) They should be excluded from their application as international organisations other than the ILO have already set standards.

Kenya. (a) (i) No nuclear installations or plants processing radioactive substances should be exempted.

Malta. (a) These are areas of economic activity liable to major accidents. Their exclusion tends to make the instrument(s) ineffective.

Mexico. CTM: *(a)* No.
CONCAMIN: *(a)* (iii) No.

Netherlands. FNV: *(b)* The exclusion should lead only to a temporary lower level of protection.
RCO: *(a)* (i) and (ii) No. These installations are potentially the most dangerous ones and there is no reason to exclude them. However, countries which have accepted IAEA regulation could exclude the installation in (i).

New Zealand. (a) (iii) This may create difficulties in that the special and particular status proposed to be accorded to pipelines may raise substantial questions of ownership and control and, ultimately, who the "employer" is for the purposes of the further controls to be imposed by subsequent elements of the proposed Convention. There may be difficulties also where the Convention relates controls to hazardous substances held at a major hazard installation and yet these controls are also to apply to pipelines carrying such hazardous substances outside the boundary of the installation. The question of the threshold quantities and how volumes carried in pipelines can best be calculated is a further issue of potential difficulty.
New Zealand Employers' Federation (NZEF): External pipelines cannot be covered by the Convention in a practicable manner for reasons of: ownership, control, identification of "employer"; applicability of controls which primarily relate to the installation itself; and calculation of threshold quantities.

Nigeria. (a) (i) Only if the IAEA regulations are as effective as those to be adopted by the ILO.
(a) (iii) Only if the transport of dangerous goods is adequate.

Norway. (a) Consideration should be given to excluding installations which handle genetically modified organisms. The offshore area should be included in the scope of the proposed Convention.
(b) No. If further exclusions are to be permitted, the Convention must impose clear-cut and stringent criteria for such exclusions and for the procedures to be followed.
Confederation of Norwegian Business and Industry (NHO): *(a)* (iii) Yes. Risks during transport should not be included since they are covered by other international instruments. (See Question 7 regarding the inclusion of pipeline transport and transport within the plant area.)
LO: *(a)* (i) and (iii) No.

Poland. Solidarnosc: *(a)* (ii) No.

Portugal. CGTP: *(a)* (i) and (ii) No. Military installations could be excluded, provided they are sited in areas where they pose no danger to the public.
(b) No.

Spain. (a) More exclusions should be included, such as installations for the manufacturing or separate storing of explosives, gunpowder and arms, subject to specific regulations.
(b) No. The instrument's scope should be established in a clear and precise way.

Sweden. (a) (iii) Reference should be made to the United Nations Recommendations on the Transport of Dangerous Goods.

Tunisia. (b) This exclusion should be for specific reasons and should be temporary.

United Kingdom. (a) (i) The nuclear exclusion should be more tightly drawn so that only radiation risks at nuclear installations are excluded.

CBI: *(a)* (i) Only the radiological aspects of nuclear installations and plants processing radioactive substances should be excluded from the application of the instrument(s).

TUC: *(a)* (i) and (ii) No.

(a) (iii) Yes, to the extent that international and national legislation already exists in this field.

United States. (b) The exclusion of further branches of economic activity should apply only if other regulatory agencies of the respective governments have set forth for those hazardous industries similar requirements which achieve the same results.

USCIB: *(a)* (iii) The exception should be rephrased to read: "transport outside the establishment when such transport is already regulated".

Zambia. (a) The competent authority should determine which activities should be excluded.

The replies indicate a wide divergence of opinion as regards both the principle of exclusion and the branches of economic activity to be excluded. In such circumstances the Office has thought it appropriate to leave the point substantially unamended so that the issues may be resolved at the Conference. Industries or installations in which the hazards are of a biological nature will be within the scope of the instrument only if they deal with substances. The only amendments of significance are to clause *(b)*, in which the power to exclude a branch of economic activity from the application of the Convention is made conditional on the provision, through other means, of an equivalent level of protection; and power is given to exclude an individual installation. There is a textual amendment to clause *(a)* (iii) intended only to make the meaning clearer. The question, as amended, is included in the Proposed Conclusions with a view to a Convention *(Point 7)*.

(1) Should the instrument(s) provide for flexibility by allowing for the stage-by-stage implementation of their provisions? **Qu. 10**

(2) If so, should this be where special problems of a substantial nature arise so that a complete system of major hazard control cannot be immediately established for major hazard installations?

(3) If so, should a Member, at each stage referred to in paragraph 1 above, be able to limit for a transitional period the application of certain provisions of the instrument(s)?

Total number of replies: 67.

Affirmative: 56. Algeria, Australia, Austria, Bahrain [negative to (2) and (3)], Bangladesh, Belarus [negative to (2)], Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Egypt [negative to (3)], Ethiopia [negative to (2)], Finland, France, Germany, Honduras, Hungary, Indonesia, Iraq, Italy, Japan, Jordan, Kenya, Malta, Mexico, Morocco, Myanmar,

Netherlands, New Zealand, Nigeria, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname [negative to (2) and (3)], Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United States, Uruguay, Zambia.

Negative: 10. Argentina, Belgium, Benin, Denmark, Ecuador, Gabon, Iceland, Ireland, Mali, United Kingdom.

Other: 1. Norway.

Argentina. No, since such flexibility could result in major accidents.

Australia. (1) The instrument(s) should allow for staged introduction starting with high-priority hazard (or risk) levels. The impact of resource demands which adoption of related regulations would place on both the installation operator and the government should be recognised.

(2) Exemplify the type of special problem which may require exemption, postponement, or staged introduction of application of regulations in qualifying cases.

ACTU: Care must be taken so that this provision is not able to be used as a convenient "way out". The instrument must ensure that all possible steps are taken by a company as quickly as possible. The situation of a major international company being able successfully to carry out operations in different countries with varying levels of safety must be prevented. The instrument should provide "enabling provisions", but not prescriptive exemption.

Belgium. A simple system of provisions rather than stage-by-stage implementation would be preferable.

Benin. National Employers' Organisation: Yes.

Bolivia. (2) Only in the case of special and sizeable problems.

(3) Only if the reasons for doing so can be justified and documented.

Brazil. AGITRA: No.

Canada. (3) Add "which should be as short as possible" after "transitional period".

CEC: In any case, time-limits are essential; otherwise, installations could avoid compliance indefinitely.

CLC: Variances and the like should be built into the instruments; otherwise, acceptance of an instrument will die the death of a thousand qualifications.

MIACC: Priority must be given to the highest risk areas first, based upon a risk management programme. The instrument should allow companies to meet the standard by voluntary as well as by legislative programmes.

Chile. (3) Member States should be able to extend the transitional period, or notify the ILO of its duration in their first report following the ratification of the Convention.

Cuba. (2) The application of these stages should be subject to precise time-limits.

Cyprus. Flexibility in the application of the instruments will encourage member States which do not have expertise and human resources in this field, gradually to make the appropriate arrangements for an eventual full application.

Denmark. DA: Yes.

Egypt. (3) No. We believe the instrument(s) should provide for flexibility if applied stage-by-stage, but without limiting the application of certain provisions.

Finland. SAK and TVK: If the instrument(s) are made sufficiently flexible, the double opportunity for flexibility given in the question would be unnecessary.

France. (1) New installations should adhere to lower thresholds and existing installations should be given grace periods in which to catch up.

Germany. DGB: No.

Gabon. CPG: Yes.

Iceland. Confederation of Icelandic Employers (VSI): Yes.
Icelandic Federation of Labour (ASI): Yes.

Italy. Provision could be made for the stage-by-stage implementation of the standard, with account being taken of the fact that a structure for the prevention of accidents has already been set up in member States.

Given the large number of plants to be examined during the initial application of the standard, provision could be made for a transitional standard containing expeditious regulations with adequate financial support for the initial examination of these plants.

Japan. RENGO: The stage-by-stage implementation is not desirable, but if inevitable, consultation with unions should be compulsory.

Mali. (1) No, since certain Members are constantly striving to improve their security measures, whilst others lack the infrastructure, legal framework and efficient controls to be able to enjoy the flexibility provided for by the instrument(s).

Malta. Without such provisions, many countries, in particular developing countries, would find the instruments highly difficult to apply.

Mexico. CONCAMIN: No. Instruments applicable to workplaces with the potential of causing major industrial accidents should provide for immediately applicable measures in the case of major accidents.

CTM: (3) No.

Netherlands. (2) Yes, but the "special problems" should be further detailed.

(3) Yes, but the instrument should specify when it is to become fully operational.

FNV: (1) Yes, this seems necessary to make ratification possible.

(2) and (3) Yes; however, this provision could too easily lead to a situation in which the Convention could be ratified without being implemented in practice. See also the answer to Question 9 *(b)*. In order to prevent this undesirable situation it would be good to establish some criteria.

RCO: A Convention could be adopted if its text does not diverge from the text of other existing international instruments, and if the possibility is given to developing countries to ratify the Convention in stages. The flexibility should not focus on the content of the instrument but on introducing the possibility to ratify the Convention in parts.

New Zealand. The concept of a stage-by-stage implementation of the provisions is useful for Members whose national circumstances and resources make it difficult to adopt all provisions at once.

The identification of major hazard sites to which the Convention will apply, and notification by employers to the competent authority that their installation is subject to the Convention, are the two fundamental elements which should be instigated first by Members wishing to continue with a stage-by-stage approach to the adoption of the Convention.

Norway. (1) A stage-by-stage implementation of the Convention's provisions must take place in accordance with a timetable.

(2) Limitations of the application of certain provisions must be justified by substantial documentation, accompanied by a timetable which has been approved by the parties and the responsible authorities.

Romania. (3) Yes, provided it specifies the duration.

Sweden. Yes, provided the conditions in (2) are unequivocally satisfied and the transitional period in (3) clearly defined. At any rate, the expression "stage-by-stage" will have to be made clearer.

Tunisia. (1) Such flexibility should be reserved for developing countries.

(2) Account should be taken of the nature of the product, the financial capacity of the enterprise and country, and the availability of national skills in the sphere of safety.

Uruguay. This provision should apply only to existing installations and not to those constructed after the ratification of the Convention.

United Kingdom. (1) There should be no generalised flexibility for stage-by-stage implementation. (2) The general criteria should not be written into the Convention, but flexibility may be incorporated into particular Articles if the case can be made. (3) The transitional relaxations should be available only where specifically granted in the Convention itself.

CBI: Yes. Flexibility is desirable in principle, but the arguments on specific cases should be convincing. There should be, however, some limitations on delayed implementation to ensure serious danger is not presented to workers, the public and the surrounding environment.

TUC: The need for flexibility is recognised by allowing for a stage-by-stage implementation of the provisions, to ease the difficulties some member States would have in introducing such legislation due to lack of resources and technical expertise. There should be provision for the adoption by a member State of a stage-by-stage approach, setting out the reasons for such an approach, a proposed timetable for implementation and the technical and economic assistance required to achieve the intentions of the Convention.

United States. (1) Stage-by-stage implementation of the provisions should be allowed with a specific completion date set for each stage.

(2) Stage-by-stage implementation should be only allowed for the initial start-up of the programme. New facilities should have a complete system of major hazard control incorporated into their design before start-up.

(3) When implementation is established through stages, the overall implementation may be delayed until the final date established for that specific stage. Due to the differences among installations and among countries, transition time may vary and the instrument should allow for the variances.

USCIB: (1) Yes. A phased-in approach would make most effective use of available economic and technical resources. The level of social and economic development should be given particular consideration.

(2) No. A phased-in approach should be followed in general.

Whilst there is general agreement in the replies that there should be provision for allowing for some form of flexibility in applying the provisions of the proposed Convention, several countries are opposed to a generalised flexibility and argue, for example, that flexibility should be incorporated into particular points if a case can be made. The Office believes that the objection has been met, at least in part, by making any flexibility conditional upon the existence of problems of a special nature and by an amendment requiring the member State at least to draw up plans for the progressive implementation of the measures concerned. This amendment also reflects the comment of the Government of Norway as to a timetable. The special problems provision is thought also to meet the objection of several governments that stage-by-stage implementation should not be permitted in the case of new installations. Other replies suggest matters which might create special problems but these are thought to be too diverse to permit further meaningful definition.

The amendments discussed are considered by the Office to make the provision contained in paragraph (3) of the question superfluous and the question as amended has been incorporated in the Proposed Conclusions with a view to a Convention as a single paragraph *(Point 8)*.

Have you any other proposals regarding the scope of the proposed instrument(s)? **Qu. 11**

Total number of replies: 60.

Affirmative: 19. Australia, Bahrain, Benin, Bolivia, Canada, Ecuador, Egypt, Ethiopia, Finland, France, Japan, Mali, New Zealand, Norway, Poland, Spain, Swaziland, Switzerland, Uruguay.

Negative: 41. Algeria, Argentina, Austria, Bangladesh, Belarus, Belgium, Brazil, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Kenya, Malta, Myanmar, Netherlands, Nigeria, Pakistan, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Sudan, Suriname, Syrian Arab Republic, Turkey, Ukraine, USSR, United Kingdom, United States, Zambia.

Australia. Within the scope of the instrument(s), provision should be made to cover "industrial activities" carried out by government or semi-government bodies, i.e. to cover operations such as explosive plants and stores, thermal power stations, dams, etc. The instrument(s) should also be flexible enough to incorporate new technologies and new hazardous substances, and not be limited to current ones. It should be clearly stated that the instrument(s) requirements are minimum requirements, to be complemented by sound working practices.

ACTU: The instrument(s) should also cover: methods of ensuring/verifying that the instruments are strictly policed and adhered to; provision of "Approval Powers for Competent Authorities"; and the development and dissemination of mandatory criteria documentation in relation to the notification, reporting and investigation of incidents.

Benin. The installations should be subject to rigorous international control when necessary.

Bolivia. The scope of the instrument(s) should include all activities which, in the event of an accident, would pose a danger to workers and the environment. Also, the instrument should cover criminal liability for those responsible for causing the accident through negligence, incompetence or other factors (generally factors which can be attributed to the employers).

Canada. CEC: The instrument should allow member States to meet the specified standard by voluntary as well as by legislative programmes.

CLC: The scope of the proposed instruments is biased in the direction of response at the expense of disaster prevention. For instance, it is quite possible that the new generation of American nuclear reactors will have "fail-safe" devices built into the design, so that the reactors shut down in the event of potential failure. No such devices were installed at Bhopal, for example.

Czechoslovakia. The instruments should deal with the question of multinational enterprises operating in foreign countries, and fix a deadline for the application of a complex control system.

Denmark. LO: The Piper Alpha Report includes the most important recommendations for an ILO Recommendation.

France. The instrument should provide that the environment includes air, soil and water.

Germany. DGB: Account should also be taken of the long-term effects on the health of the workers.

Hungary. The workers' organisations suggest the documentation of employers' responsibilities, minimum standards of emergency procedures and mandatory forms of international cooperation.

Ireland. The proposed instrument should closely follow the scope of the EC Directive 82/501 and its fundamental review.

Japan. In view of the mandate of the ILO, the instrument(s) should be concerned with the protection of workers. The instrument(s) should be flexible enough to be able to cope with the domestic situations in member countries.

Mali. The instruments should apply to all installations presenting a major hazard for workers, the public and the environment

Mexico. There should be regulations concerning land use and compatibility with neighbouring enterprises.

New Zealand. Installations with a range of listed hazardous substances in quantities below the individual thresholds and how such sites should be dealt with in terms of the Convention are discussed in the answer to Question 13.

Poland. The definition of the expression "hazardous substances" should be added.

Swaziland. There should be provision for international inspections apart from national inspections.

Switzerland. It may prove advisable to take account of problems related to biotechnologies and genetic engineering. Furthermore, it is essential that the future instrument consider the matter of cooperation between States in the event of industrial accidents (international alert system).

United Kingdom. See the reply to Question 7.

Uruguay. Hazards of biological origin should be included.

IV. Content of a Convention

General principles

Qu. 12 *(1) Should the Convention provide that each Member should in the light of national conditions and practice, and in consultation with the most representative organisations of employers and workers, formulate and periodically review a coherent national policy for the protection of workers, the public and the environment against the risk of major accidents resulting from industrial activities?*

(2) If so, should the policy be implemented by measures for major hazard control for major hazard installations?

Total number of replies: 65.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia,

Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 1. Japan.

Belgium. CNT: The questionnaire does not treat the important aspect of favouring and encouraging prevention. If all major hazard installations are treated in the same way, irrespective of whether they take preventive measures or not, they will not be encouraged to adopt these measures. The instrument(s) should envisage appropriate incentives for prevention.

Bolivia. (1) Other bodies (e.g. departments dealing with civil defence, health, the armed forces, the police, the Red Cross, etc.) should also be consulted.

Brazil. Such matters would be more appropriately contained in a Recommendation.

AGITRA: (1) As this is a new field of activity for the ILO, whenever employers and workers are mentioned, emphasis should be laid on the representation of the local population and environmentalists.

Canada. (1) Add "and with other parties who may be affected" after "representative organisations of employers and workers" since the policy, which would include public safety, emergency planning and environmental protection, may affect others as well as employers and workers.

Cuba. (2) The provisions dealing with such hazards should be expressed in laws and regulations.

France. CNPF: All questions relative to the policy for the health and safety of workers while at work must be a matter of consultation between employers' representatives and trade unions. On the other hand, it is not the task of trade unions as such to participate in the preparation of environmental protection policy.

Ireland. (2) The policy should be implemented by national legislation on major hazard control for major hazard installations.

Italy. CONFINDUSTRIA: Yes.

Japan. (1) A policy should be confined to the protection of workers in normal labour-management relations. The protection of the public and the protection of the environment should only be treated as objectives to be taken into consideration. The wording should be partially amended to read ". . . formulate and periodically review coherent national policies for the protection of workers, with the public and the environment in view, against . . .".

(2) The "measures for major hazard control for major hazard installations" should not be made the sole control measures; the provision should be a flexible one so that other effective measures should also be acceptable.

Netherlands. RCO: (1) A distinction should be made between the protection of workers and the protection of the public and of the environment. The protection of workers is primarily related to safety within the enterprise and is part of the conditions of work. The protection of the public and of the environment is in the first instance a government responsibility. According to national practice, employers' and workers' organisations could be consulted on the protection of the public and of the environment.

Norway. (1) Reference should be made to "national legislation" as well as to "conditions and practice".

LO: (2) Consideration should also be given to cross-border information and control in preparing the Convention.

Portugal. CGTP: (1) Participation, rather than "consultation" should be encouraged.

The matter raised by the Government of Japan has been discussed in the Office commentary on Question 2. The first paragraph has been amended to give effect to the proposal of the Governments of Ireland and Norway, and the second paragraph to meet the proposal of the Government of Japan and to assist in interpretation. Reference to other parties who may be affected is considered to present problems of identification and for that reason the proposed amendments have not been adopted. All but one of the replies were in the affirmative; accordingly, the question appears with the amendments discussed in the Proposed Conclusions with a view to a Convention *(Point 9)*.

Qu. 13 *Should the Convention provide that the competent authority should establish criteria to enable the identification of major hazard installations based on a list of hazardous substances or categories of substances and threshold quantities?*

Total number of replies: 66.

Affirmative: 62. Algeria, Argentina, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, Nigeria, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 4. Australia, Japan, New Zealand, Norway.

Australia. ACTU: It is important to ensure that such criteria be established in consultation with representative organisations of workers and employers, and that the criteria be internationally acceptable. In establishing criteria, consideration should also be given to hazardous substances and quantities in particular environments. For example, certain threshold values of substances are significantly more dangerous during underground mining operations. Thus, the Convention should incorporate an interactive definition which embraces both the concept of prescriptive schedules *and* category/quantity criteria. That is, the presence of some substances as defined above, should be sufficient to consider an installation as a major hazard.

CAI: It is more appropriate for hazardous substances to be identified by category, rather than by individual listing of particular substances. A list compiled on the latter basis is likely to be extremely lengthy and cumbersome. For example, category descriptions such as "corrosive" or "flammable" would seem a more practical alternative.

Belgium. The Convention should not restrict itself to a single list of dangerous substances. It should establish the means of creating a link between the system of classification of chemical products, provided for in Convention No. 170, and the threshold quantities, to enable the identification of the installation. The Recommendation could include a list of the types of major hazard installation covered by the provisions.

CNT: The criterion of quantity alone is important, but insufficient, for while a product may not be hazardous in small quantities, it may be dangerous in large quantities because of the way it is processed. The Seveso Directive was adopted in order to encourage prevention; the majority of the preventive measures concern the processes used. Therefore, processes and production techniques must be added to the two criteria proposed in Question 13.

Brazil. Depending on their respective stage of development, countries can opt for the adoption, initially, of high threshold limits, which may be subsequently and gradually reduced until optimal quantities are finally established.

Canada. CEC: The list should include a combination of categories of substances, similar to the MIACC lists.

CLC: This question does not distinguish clearly between list-driven and criteria-driven systems. The best way to "catch" potential hazards within a system is to define substances, forms of energy, and processes that do not comprise a major hazard (e.g. inert gases), and then declare that all others come under the scope of the system. For the sake of uniformity, the instruments themselves could set down criteria for inclusion or exclusion.

Czechoslovakia. The criteria should be completed by reference to parameters such as pressure, temperature, etc. The word "and" should be used instead of "or".

Denmark. Based on a list of substances, supplemented by more detailed categories of substances and preparations which are not included in the list.

LO: It should be the duty of the employer to identify major risks within his control.

Egypt. The criteria should be established jointly with employers' and workers' organisations.

Finland. When these criteria are being drawn up, note should also be taken of the location and surroundings of the industrial facilities. Further, when drawing up the list of hazardous substances, the authorities should also pay attention to whether substances that interreact are located close to one another.

Germany. In addition to the list of hazardous substances, the identification of the major hazard installation should be complemented by the classification criteria described in the Chemicals Convention (No. 170).

DGB: This should also take account of emission limits.

Hungary. Employers' and workers' organisations consider that the member State ratifying the Convention should be obliged to define by legislation the "competent authority".

Ireland. The category approach suggested by the EC Competent Authority for the fundamental review of EC Directive 82/501 is proposed for the Convention, with the threshold quantities laid down in the Recommendation.

Italy. CONFINDUSTRIA: Yes.

Japan. Since the domestic situations are different from country to country, the provision should be a flexible one. For example, the words after "based on" should be deleted. The matter of pressure should also be taken into consideration.

RENGO: The competent authority should refer to international standards in establishing the list of hazardous substances and threshold quantities.

Mexico. CONCAMIN: Criteria should be established in accordance with Convention No. 144, and be submitted for consultation between workers' and employers' representatives.

Netherlands. RCO: Criteria should be based on categories; see the reply to Question 8.

New Zealand. A hazard-based rather than a risk-based approach is readily quantifiable and the assessment of risks arising from these hazards can thus be taken on a

stepwise and site-by-site basis, as can the extent of quantification of risks that might be considered necessary.

There is the question of how to treat those installations which do not have any single listed hazardous substance in a quantity above the threshold quantity, but which do have a number of listed substances in quantities somewhat below each relevant threshold.

Norway. See under Question 7 regarding threshold quantities. More sophisticated criteria may become relevant in the future.

Portugal. See the replies to Questions 7 and 8.

Singapore. In consultation with the most representative organisations of employers and workers.

Sudan. The competent authority should be required to provide technical advice and guidance.

Tunisia. The concept of priority should guide the establishment of criteria, in the light of the seriousness and nature of the hazard.

USSR. The Recommendation should include a list of well-known hazardous substances and their threshold quantities.

United Kingdom. CBI: This should include a capability clause (see the reply to Question 7).

TUC: The criteria should be subject to review in line with new technology and improved scientific knowledge.

United States. USCIB: "Hazardous substances" and "threshold quantities" should be explicitly defined to enable development of consistent and uniform criteria among competent national authorities.

Because several replies refer to the desirability of lists of hazardous substances meeting international criteria, an amendment has been introduced enabling a member State to adopt criteria established by an international or intergovernmental body to facilitate such lists and to assist developing countries which may not yet have the resources to compile a national list. Some replies urge identification of hazardous substances by category; the Office believes that the further amended wording of the question does not exclude this, while leaving the compilation of a list of hazardous substances as the alternative, with or without threshold quantities. It has not been thought appropriate greatly to extend the definition by referring to factors such as pressure and temperature which may contribute to the cause of a major accident, as suggested in only one reply. The question, as amended, has been incorporated in the Proposed Conclusions with a view to a Convention *(Point 10)*.

Identification

Qu. 14 *Should the Convention provide that an employer should be required to identify any major hazard installation within the employer's control according to the established criteria referred to in Question 13?*

Total number of replies: 66.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Italy, Jordan, Kenya, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 2. Japan, Sudan.

Australia. The employer *or* the occupier, i.e. the organisation managing the installation, should be required to report to a competent authority that an installation qualifies as a major hazard installation.

Benin. The identification should be agreed by the competent national technical authority, with international expert advice, if needed.

Canada. In this provision and wherever the term "employer" is used in the Convention and Recommendation it should be defined to mean, depending on the circumstances, either *(a)* the actual employer or *(b)* the person or group operating, or having effective control or custody of the installation. This would cover situations where, for example, a contractor provides the personnel to operate an installation but has no input or control as regards the engineering, construction or maintenance of the facility.

Czechoslovakia. Include the possibility of making full use of technical data of producers of the installation and of project and technical documents. Include also the duty of labour inspection bodies to identify the installation mentioned.

Denmark. This provision should be extended to also cover the supervision of the availability of the resources required and compliance with safety procedures and measures.

Finland. SAK and TVK: The information should be public and all facilities in an employer's possession should be included, whatever their country of location.

Ireland. The proposed wording should be similar to article 3 of EC Directive 82/501.

Italy. CONFINDUSTRIA: No. An employer should provide all the information required by the competent authority; the latter, on the basis of this information, would be responsible for identifying major hazard installations according to the established criteria.

Japan. This provision is not necessary because the requirement to "notify" in Question 16 presupposes the act of "identification" by the employer.

Netherlands. RCO: No. The government should define through its legislation the criteria for the identification of major hazard installations (see also Question 16). The employer should then notify the competent authority that such installation is within his premises.

Poland. Eliminate the expression "within the employer's control".

Sudan. The intention of the question is not clear.

Switzerland. A further point should be noted which could give rise to confusion and which may be an obstacle to ratification. The owner of an enterprise is a term which sometimes may not have the same meaning as that of employer. It would be advisable, therefore, to refer to "an employer/or owner". This observation is also valid as regards

other points in the proposed instrument, in so far as, under Swiss law, the owner of the enterprise is responsible for obligations in pursuance of the legislation respecting the protection of the environment, whereas the legislation respecting the protection of workers places the responsibility on the employer.

Tunisia. Subject to the definition of the term "installation".

Turkey. TISK: No.

USSR. There is an overlap with the provisions of Question 16.

United Kingdom. This could be amalgamated with the notification duty.
TUC: The Convention should also recognise the responsibilities of the site owner, who may be different from the employer, or where the site owner leases to a number of employers.

Several replies question the need for a provision requiring employers to identify a major hazard installation, believing this to be subsumed under the subsequent question requiring the employer to notify the competent authority of the installation. In the view of the Office this important provision would lose emphasis and thus force if it were to form part of Question 16. As the question is concerned only with identification, the distinction between an employer of labour only and an occupier or person responsible for the installation, is not thought to be material; all may exercise a degree of control and should be capable of identifying a major hazard installation at which they are working or for which they are responsible. There were no replies in the negative and the Office has, therefore, included the question in the Proposed Conclusions with a view to a Convention *(Point 11)*.

Arrangements at the level of the installation

Qu. 15 *Should the Convention provide that in respect of each major hazard installation the employer should be required to establish and maintain a system of major hazard control which includes provision for:*

(a) *the identification and analysis of hazards and the assessment of risks;*

(b) *the technical and organisational measures necessary for the safe operation of the installation, including:*

(i) the proper design, construction, operation and maintenance of the installation;

(ii) the appointment of competent personnel, the proper instruction and training of personnel, and the regular and systematic inspection of the installation;

(c) *emergency plans and procedures, including:*

(i) the preparation of site emergency plans and procedures in case of uncontrolled events and major accidents;

(ii) the provision of information on potential accidents and site emergency plans to authorities and bodies responsible for the preparation of emergency plans and procedures for the protection of the public and the environment outside the site of the installation;

(iii) any necessary consultation with such authorities and bodies?

Total number of replies: 65.

Affirmative: 63. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Ecuador, Egypt, Ethiopia, Finland, France [negative for *(c)* (ii)], Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 2. Japan, Norway.

Australia. (a) A system of major hazard control should be required, using a system of priorities so as to focus on the major risks.

(b) (i) The meaning of the term "proper" needs to be elaborated.

ACTU: The list of matters in relation to which a "system of hazard control" should be developed should be extended to include the following: requirement to control the hazards/risks identified under *(a)*, i.e. including determination of whether such an installation is necessary, the use of other less hazardous substances, etc.; planning of installations, including their location and their co-location with other hazardous installations; conformity with all aspects of Convention No. 155; protection of workers needs to be added to the emergency procedure aspects; *(b)* (ii) that there be an overall verifiable training strategy for the installation; *(c)* arrangements for emergency plans and procedures must involve "the public".

"Competent authorities" will need enforcement powers and jurisdiction to impose particular arrangements where there are risks/hazards created through co-location of hazards across enterprise boundaries. Identification of these "interractive hazards" should be specified as a role of the "competent authority".

Bahrain. Bahrain National Oil Company (BNOC): The member State must confirm the adequacy of the plans and procedures required by *(c)*.

Belarus. (b) (ii) Add the words "and regular tests to check that the required level of knowledge of safety requirements has been attained, and also ..." after the word "personnel".

Belgium. (b) (ii) Particular attention should be given to the need to provide training for the managers and workers concerned, not only in precautions to take under normal operating conditions, but also in how to cope with emergency situations, and to provide full information to the emergency services. It is assumed that the term "proper design" also includes making the installation the responsibility of the employer. It should be pointed out that suitable protective clothing and training should be included in the provisions aimed at ensuring operational safety in installations.

(c) (ii) The public likely to be affected by a major accident should also be fully informed.

Brazil. These matters should, depending on the stage of social and economic development of each country, be the responsibility of the competent governmental authority or include technical guidance from that authority.

Canada. (c) (i) Add "and testing" after "preparation" and "to be applied" after "procedures". This would clarify the wording and add the important element of testing to ensure that emergency plans and procedures are adequate and to provide information for their improvement.

MIACC: Cooperative emergency measures by all authorities are essential, and only possible with the disclosure of all relevant information. Regarding *(c)* (iii), it should be determined who decides what is necessary, and whether this means an obligation to establish a participatory process.

Cuba. (b) (i) Only for new installations.

Czechoslovakia. Include the so-called "traumatologic programmes" and require emergency escape drills from endangered areas. After clause *(b)* insert "regular controls and inspections" and after clause *(c)* insert "the duty of employers to train regularly and continuously their employees in emergency steps in case of major accidents" and add "the right of competent bodies to demand the cooperation of the employer in the preparation of emergency programmes and steps outside the site of the installation".

Egypt. (a) This should be in accordance with the criteria established in Question 13.

Ethiopia. There should be provision for the requisition of information obtained by the transfer of technology.

Ireland. Clauses *(b)* and *(c)* should refer to training of personnel required to carry out specific tasks.

Italy. CONFINDUSTRIA: Yes.

Japan. The words after "which includes provision for" deal with methods in concrete terms and, therefore, it is assumed that there will be many cases of conflict with the existing systems of member countries. Accordingly, it should be provided that adequate domestic measures should be taken through systems such as unified control by the competent authority, and individual control by employers, as described in the ILO code of practice.

RENGO: Yes. The arrangements at the level of the installation constitute the core of the protection system; therefore, the experiences of various countries should be incorporated. Consultation with trade unions should be mentioned for establishing these arrangements.

Netherlands. (a) Yes, with the inclusion of "and provisions to take appropriate decisions for safety precautions, to prevent major accidents or to mitigate the consequences in the case of accidents".

New Zealand. NZCTU: There is a general move by government towards establishing auditing functions to approved non-state agencies. The State must maintain an audit function and cannot transfer the entire responsibility for monitoring health and safety standards to non-governmental organsations.

Norway. Establishment of a control system should not be the responsibility of the employer alone, but of the authorities, employers and workers. Drills in emergency plans and procedures should be incorporated in the Convention.

Poland. Yes, but add the words "constructor and producer".

Qatar. These arrangements should be laid down by special regulations issued by the competent authorities.

Tunisia. With the addition of the indirect factors compounding the risks such as unskilled staff, design defects in the installation, abnormal working conditions, etc.

(c) (i) With the addition of the concept of a safety unit within the enterprise responsible for managing and consolidating measures for the prevention of industrial accidents.

United Kingdom. (c) The duty should be limited to "top-tier" premises.

CBI: *(a)* The assessment of risk should be qualified by the phrase "in broad terms". This would avoid any risk of this being interpreted as a qualified risk assessment.

TUC: It is important to consider individual locations where a number of different industrial activities are carried and recognise the need for a coordinated approach to site safety management. The instrument(s) should also place a duty on employers to consult with representatives of employees' organisations when establishing or reviewing a system of safety management. An employer should also be required to prove to the satisfaction of representatives of workers' organisations the competency of the appointed personnel. The representatives should also be consulted on the nature of the training and information which is to be given to workers.

United States. In addition, mention should be made of the protection of those employees who would serve as the immediate responders to the incident before local public sector emergency responders arrive on the scene. Emphasis should be placed on response planning, proper use of equipment and training of these first responders.

USCIB: *(c)* (ii) Competent authorities must have an adequate infrastructure to support emergency plans and procedures.

Several replies, such as that from the ACTU, suggest that the matters which a system of major hazard control should address should be substantially elaborated. No part of the question is exclusive and in the view of the Office terms such as "technical and organisational measures" are apt to cover most of the matters; also, the detail as to how to satisfy the basic requirement of the question is to be found in the ILO code of practice referred to in the Recommendation. It is acknowledged that emergency plans and procedures should be tested to prove that they are effective and this word has been introduced to qualify the reference to site emergency plans. Similarly, the plans and procedures may need to be applied when there is no more than a threat of a major accident and a further amendment expresses this.

Although the use and meaning of the word "proper" is questioned, no alternative qualitative term has been proposed and the Office considers that it covers the need for specialised training such as for first responders. Some replies comment on matters which are dealt with in subsequent questions, such as the involvement of workers. The question deals with the duty of the employer and in the view of the Office it would be inappropriate to extend the scope of the question to include the duties of the competent authority and other bodies. The majority of replies were in the affirmative and without comment. With the amendments mentioned, the text of the question has been included in the Proposed Conclusions with a view to a Convention *(Point 12)*.

Notification

Should the Convention provide that an employer should be required to notify the competent authority of the existence of any major hazard installation which the employer has identified? **Qu. 16**

Total number of replies: 66.

Affirmative: 66. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Argentina. Provided that the employer is responsible.

Australia. ACTU: An employer should be required also to notify the type, quantity, destination and transport arrangements of any hazardous substance leaving the installation. The information obtained should be entered into a national (possibly international) database.

Benin. The notification should apply to proposed new installations.

Bolivia. Penalties should be imposed for failure to do so.

Cameroon. Yes, as soon as possible.

Chile. A record of notification should be kept.

Finland. Only above a certain quantity of the substance.

Hungary. See the comment on Question 13.

Italy. CONFINDUSTRIA: See the reply to Question 14.

Japan. Since domestic situations differ from country to country, the provisions in Questions 16 to 19 inclusive should be flexible and include other effective formulas, such as the notification to the competent authority that the installations meet standards, and any confirmation and permission given by the authority.

Kenya. The employer should also be required to notify workers or their representatives.

Mexico. CONCAMIN: The Convention should list the matters which should be dealt with in the notification.

Netherlands. RCO: Yes. See the response to Question 14. The identification is the concern of the competent authority.

New Zealand. A requirement to notify could be included as a consequent element of the identification of an installation as a major hazard site and thus subject to the regulations; a report (similar to the safety report of Questions 17-19) should be furnished to the competent authority.

Portugal. CGTP: Yes, but workers should be able to notify the competent authority.

Singapore. Add "in accordance with national laws and regulations".

Swaziland. Notification should also be given to competent international authorities or bodies.

Turkey. TISK: No.

United Kingdom. Combine with Question 14.

Several replies deal with the content of a notification, but the Office considers that, important though this may be, it is detail which is properly dealt

with in the Recommendation. It is also probable that through national laws or regulations to give effect to the instruments, the competent authority would wish to be able to specify the information most useful for its own purposes, and this may vary between member States. A textual amendment is thought by the Office to meet the point raised by the Government of Japan. As all replies were in the affirmative, the provision has been included in the Proposed Conclusions with a view to a Convention *(Point 13)*.

Safety report

(1) Should the Convention provide that an employer should be required to prepare a safety report containing all necessary information on the measures which the employer has taken to establish and maintain a system of major hazard control at each major hazard installation? **Qu. 17**

(2) If so, should the report be prepared:

(a) *in the case of existing major hazard installations within such a period, after notification, as is prescribed by national laws or regulations;*

(b) *in the case of any new major hazard installation, before it is put into operation?*

Total number of replies: 67.

Affirmative: 65. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 2. Italy, Japan.

Australia. In addition, evidence should be required that recognised methods of quantification or semi-quantification of residual risk have been employed, and that the results have been interpreted by a competent person.

ACTU: (2) *(a)* The report should be prepared in consultation with employees at the site and their representative organisations.

CAI: In the case of any new major hazard installation the report should be provided immediately prior to the commencement of operations at the site or at the time that the particular dangerous substances are first located at that site.

Belgium. If a distinction is made between provisions covering new installations and existing installations, it is necessary to define new installations and existing installations.

It should also be mentioned that if changes are made to existing installations, they will need to be re-evaluated and, in certain cases, certain installations will have to be looked upon as new installations, and therefore subject to the conditions applied to new installations (for example, notification). It is also necessary to establish the time-limit between the time of notification (or safety report) and when the installation may begin to operate.

CNT: (2) *(a)* The instrument should specify the period in question.

Bolivia. (2) *(a)* The period should not be following notification, but after publication of the legislation in question.

(b) Yes, and it should be a basic requirement before permission to operate is granted.

Brazil. Yes, but with account always being taken of the principle of industrial secrecy, the respective stage of development of the country and national legislation and practice on the matter.

Czechoslovakia. Perhaps the safety report should be prepared not by the employer but by a state body or a professional institution to achieve a greater objectivity.

Denmark. LO: As regards Questions 17-19, whether a separate safety report is necessary will depend upon how the system referred to in Question 15 is designed.

Ecuador. The employer should comply with the provisions of this clause, but surveillance and control should be carried out by the competent authority.

Finland. (1) Only above a certain quantity of the substance.

Ireland. 2 *(a)* and *(b)*. Time-scales should be set in national legislation.

Italy. It would be appropriate to make provision for the compilation of a "succinct report". The competent authority, after examination of the succinct report, decides whether the plant is potentially a "hazard installation" and, as the case may be, requests a full safety report.

CONFINDUSTRIA: Yes.

Japan. See the reply to Question 16.

Kenya. (2) *(b)* Commensurate penalties should be provided for failure by employers to provide a safety report as required.

Malta. (2) *(b)* Before operation and periodically thereafter to bring up to date the initial information given.

New Zealand. The safety report is an important element of the supervised self-regulatory theme which exists within the proposed Convention.

(2) *(b)* There should be a different emphasis in the requirement for new installations; they should be allowed up to six months for the provision of the report and the emergency plan, from the date of commissioning of the installation. This is because many of the aspects called for in report(s) and emergency plan cannot be adequately compiled and/or tested in practice until the installation is up and running.

Portugal. (1) The time-limit for presenting the safety report should be longer than that for the application of other provisions of the Recommendation.

(2) *(b)* See the reply to Question 19.

CIP: No. The employer has already been required to establish a system of major hazard control under Question 15.

Spain. (a) The safety report should, before referring to the "measures which the employer has taken to establish and maintain a system of major hazard control", contain information on: identification of the major accidents that might occur in the installation and an analysis of their repercussions; identification of situations likely to spark off a major accident.

Tunisia. (1) The qualifications of the staff should also be specified.

United Kingdom. The duty should be limited to "top-tier" premises.

TUC: The safety report should be developed in consultation with the workers' representative organisations.

United States. A safety report that includes administrative safety programmes and a technical hazard analysis should be required of an employer for both new and existing major hazard installations. A process hazard analysis is the starting-point for a hazard control system.

USCIB: (1) A safety report should be used as a management tool, not as a compliance mechanism. In establishing requirements for a safety report, consideration should be given to the administrative burdens imposed, and protection of proprietary and security information.

Some replies are concerned to state in more detail what information should be contained in the safety report, but in the view of the Office this is properly a matter for each member State, guided by the ILO code of practice. Similarly, what constitutes a new installation and the time-limit will be a matter for national laws or regulations. It is thought by the Office to be central to the principles contained in the Proposed Conclusions with a view to the Convention that it is the responsibility of the employer, rather than a state body, to prepare the safety report, although the employer may seek the aid of a professional institution. The proposal of the Government of Czechoslovakia has not therefore been incorporated.

The proposal of the Government of Italy that the report be required in two stages is not thought to be excluded by the present wording of the provision. The Government of the United Kingdom proposes here, as in other related questions, that the requirement to prepare a safety report should be limited to "top-tier" premises, i.e. those defined by relation to higher threshold quantities. Again, such a system is believed by the Office to be within the scope of the proposed instruments, but there is insufficient comment in other replies to make it mandatory.

The overwhelming number of replies are in the affirmative and, accordingly, the provision has been included without amendment in the Proposed Conclusions with a view to a Convention *(Point 14)*.

Should the Convention provide that an employer should be required to review, to update and to amend a safety report — **Qu. 18**

(a) *(i) in the event of a significant modification in the installation, the process or the quantities of hazardous substances;*

(ii) when new technical knowledge relative to safety or developments in knowledge concerning the assessment of hazards make this appropriate;

(b) *at such intervals as are prescribed by national laws or regulations?*

Total number of replies: 66.

Affirmative: 65. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus [negative to *(b)*], Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland [negative to *(b)*], Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay [negative to *(b)*], Zambia.

Other: 1. Japan.

Australia. (a) (i) There should be reference to the employer or occupier. The meaning of the word "significant" would need definition. A significant modification to plant or process would be one which, upon risk assessment, caused an increase in the level of risk at the installation (such as increases in quantities of hazardous materials). The instrument should take into account, however, that an increase in quantity could be associated with a reduction in overall risk by means of improved plant or process.

ACTU: The employer should be required to amend/review the safety report and have it approved by the competent authority prior to any such significant modification.

CAI: Once prepared, we would not see any further need for updating or regularly providing the report to relevant authorities unless the particular circumstances at an installation changed.

Belgium. The employer must review, update and amend the safety report if requested to do so by the competent authority.

Bolivia. (b) If such intervals are not prescribed by legislation, employers are unlikely to update safety reports of their own free will or on a regular basis.

Brazil. Yes, provided that the information contained in these safety reports does not violate the principle of industrial secrecy.

Canada. CEC: *(a)* (ii) This requirement raises the question of who decides when there is sufficient new knowledge to require revision of the safety report. Some interest groups feel that any advance in the knowledge should be taken into account, while the organisation operating the installation may favour incorporating new developments only after their value has been demonstrated by practical experience.

Czechoslovakia. (a) (ii) After the word "technical", add the words "and other".

Denmark. In close cooperation with other international organisations.

Finland. (a) (i) Only above a certain quantity of the substance.

France. CNPF: *(b)* No.

Iceland. These should be minimum standards.

Ireland. (b) Intervals should be set at three years at most.

Italy. CONFINDUSTRIA: Yes.

Japan. See the reply to Question 16.

Kenya. (a) (i) Within a specified period.

Malta. See the reply to Question 17 *(b)* (ii).

(b) The Convention should specify the length of the interval between reports. The interval should be not too long to be overtaken by events and new developments, and not too short to become a financial and administrative burden on the employer.

New Zealand. One area of some difficulty is what constitutes "significant modifications". This provides another example of the necessary self-regulatory basis of these sorts of controls; the management of a major hazard installation is best placed to decide what constitutes "significant modifications" in any instance. It could well be that quite a small change is "significant", whereas a major alteration to hardware may make very little difference to the major hazard potential of the installation.

Given that "significant modifications" are not defined in the ILO code of practice, we think that consideration should be given to defining it in the appropriate section of the Convention.

Portugal. CIP: No. See the reply to Question 17.

Sweden. The periodic update mentioned in *(b)* can be combined with the report on developments referred to in *(a)* (ii). Updates will then have to take place at relatively frequent intervals, e.g. alternate years.

Tunisia. Add a new item (iii) to read "or following an incident which requires repair".

United States. Process hazard analyses should be conducted for new plant start-ups, major modifications, the development of new technology, and upon a five-year review. A five-year review ensures that the process hazard analysis is updated to include new methodologies.

USSR. Polimir: *(b)* No.

With one exception the replies were in the affirmative and the Office has incorporated the provision in the Proposed Conclusions with a view to a Convention *(Point 15)* after making textual amendments intended to improve the drafting. The replies revealed a difference in views about the appropriate interval between reviews and, in the view of the Office, it is proper to leave this to member States who will have regard, for example, to the resources of the competent authority. Consideration has been given to a definition of the word "significant". The Office agrees with the Government of New Zealand that what is significant in relation to any installation will first be within the knowledge of the employer, but, having regard to the diversity of installations, considers this a matter proper for resolution at the Conference.

Should the Convention provide that an employer should be required to transmit, or make available to the competent authority, the safety report referred to in Question 17? **Qu. 19**

Total number of replies: 64.

Affirmative: 63. Algeria, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore,

Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 1. Japan.

Australia. The employer or occupier should be required to make the safety report available to the competent authority, when the authority asks for it.
ACTU: The report should also be made available to relevant employee organisations and representatives of the affected community.

Belgium. The safety report should be sent automatically to the competent authority.

Cameroon. It would be desirable if the report was required to be transmitted to the competent authority and not only made available at the installation. This would enable the competent authority, particularly in developing countries, to be better informed of what goes on in the enterprise and to require the necessary measures without being obliged to visit.

Canada. Confidentiality of information should be respected. Attention is drawn to the CCPA settlement of policy on "Responsible Care".
MIACC: The Convention should state that the safety report should be made available rather than require its transmission.

Czechoslovakia. The safety report should be available also to employees' representatives.

Finland. Considerations related to business secrets and the confidentiality of data must then be taken into account.

Hungary. See the comment on Question 13.

Iceland. Considerations of business secrets and the confidentiality of data must be taken into account.

Ireland. The Convention should specify a compulsory transmission of the safety report to the competent authority.

Italy. CONFINDUSTRIA: Yes.

Japan. See the reply to Question 16.
RENGO: Not sufficient. The competent authority should be empowered to study the report of the employer, and to order change or stop the operation if the report is not satisfactory.

Kenya. Only if the need arises.

New Zealand. The report should be "transmitted" (i.e. sent) to the competent authority rather than just being made available.

Portugal. This should be carried out at a reasonable time before the installation is built and not when it begins to operate.
CIP: No. See the reply to Question 17.

Qatar. The important step is to prepare the report and to update it whenever necessary. The report may be transmitted to the competent authority or made available to the competent inspectors as national laws or regulations provide.

Spain. The competent authority should specify when the employer should transmit the safety report and when it should merely be made available.

United Kingdom. The safety report should be submitted or made available also to workers' organisations.

United States. The employer should be required to prepare the safety report and make this report available to the competent authority upon site visit or inspection of the

installation. Transmitting the report to the competent authority is unnecessary if the employer keeps the report on the premises.

USCIB: A Recommendation should provide that the employer should "make available" the safety report to the competent authority because the safety report is a management tool and not a compliance mechanism. See the answer to Question 17(1).

Although there is almost complete unanimity that the competent authority must be able to see the safety report, there is a marked division in the replies as to whether the report should be sent to the authority, or whether it is sufficient to make the report available if there is a request to see it. In these circumstances the Office has thought it appropriate to include the provision, unamended, in the Proposed Conclusions with a view to a Convention *(Point 16)*. The issue of the confidentiality of business information arises after the safety report has been received by the competent authority and security as such has not been treated in the instruments. The availability of the report to workers is dealt with in a later question.

General protective measures

Should the Convention provide that the competent authority should ensure that emergency plans and procedures are prepared for the protection of the public and the environment outside the site of each major hazard installation? **Qu. 20**

Total number of replies: 66.

Affirmative: 62. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, Uruguay, United Kingdom, United States, Zambia.

Negative: 2. France, Sudan.

Other: 2. Germany, Japan.

Australia. Consideration should be given to limiting such a requirement at the major risk level rather than major hazard level, and to prescribing a radius of influence for which plans need to be prepared.

ACTU: The competent authority should ensure that the plans are adequate. The plans should also include specific reference to the protection of workers within the installation.

Canada. Add "and tested" after "prepared". The testing of emergency plans and procedures is necessary to ensure that they work and to provide information for their improvement.

CEC: This provision should be extended to require the testing of emergency plans.

MIACC: It is important to distinguish between on-site and off-site emergency plans. The Convention should be extended to require the testing of emergency plans.

Czechoslovakia. There should be reference to the need for the emergency plans to be revised if necessary.

Germany. Provisions for the protection of the public and the environment should be made within the framework of a Recommendation.

Italy. CONFINDUSTRIA: Yes.

Japan. The provision should go no further than saying that the emergency measures for the protection of workers should be taken with consideration of the public and the environment, provided that such consideration does not undermine the protection of workers. For this reason, "as well as workers" should be added to the end of the sentence.

New Zealand. The "competent authority" of this provision may be different from that of other aspects of the control regime.

Norway. Consideration should be given to whether emergency response capability should be added to emergency plans.

Qatar. In cooperation with the employer.

Romania. Include the local government authority, according to national law and practice.

Singapore. In consultation with the most representative employers' and workers' organisations.

Sudan. No, because establishing such plans and securing their implementation requires knowledge and expertise which is not available in a developing country such as ours.

Ukraine. The competent authority and the employer should jointly ensure that emergency plans and procedures are prepared.

USSR. Emergency plans for the protection of the public should be prepared by the owners of the installation in question.

United Kingdom. This should be limited to "top-tier" premises.

TUC: The Convention should provide that there should be coordination between the emergency services and that all appropriate authorities should be consulted in the development of emergency plans and procedures, in accordance with national legislation.

United States. General protective measures such as the emergency plans and procedures for the protection of the employees, public and environment external to the site of major hazard installations should be required of the employer of a major hazard installation. The competent authority should be empowered to require that public sector emergency responders (i.e. firefighters, police officers, paramedics) cooperate with the employer in preparing for such emergencies.

The amendments to the text made by the Office reflect the views expressed by several countries, in their response to this question and others, that the protection of the public and the environment should be seen as an extension of the protection an employer is required to provide for his workers within the site of the installation. The nature and number of public sector emergency

responders referred to by the Government of the United States are likely to vary markedly between member States, and the Office has thought it inappropriate to introduce an amendment to prescribe their relationship with the competent authority, as also discussed by the Government of Norway and the TUC of the United Kingdom. The need for emergency plans and procedures to be effective in terms of testing was discussed under Question 15.

All but four of the replies to this question were in the affirmative and, accordingly, the Office has incorporated the provision in the Proposed Conclusions with a view to a Convention *(Point 17)*.

Should the Convention provide that the competent authority should ensure that: **Qu. 21**

(a) *(i) information on safety measures and the correct behaviour to adopt in the case of a major accident is disseminated to members of the public liable to be affected by a major accident without their having to request it;*

(ii) such information is updated and re-disseminated at appropriate intervals;

(b) *warning of a major accident is given as soon as possible after it has occurred?*

Total number of replies: 66.

Affirmative: 63. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Chile, China, Cuba, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopa, Finland, Gabon, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Italy, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. France.

Other: 2. Germany, Japan.

Australia. (a) (ii) Such information should be updated at regular specified intervals, and when there is a significant change in the level of risk or the size of potential consequences.

(b) In addition, a system of public education about the warning methods must be instituted and an understanding about testing any warning method reached within the neighbouring community.

ACTU: *(a)* (i) Insert "in varied and accessible forms" after "information".

(b) Replace "as soon as possible" with "immediately".

CAI: *(a)* The provision or availability of this information should be balanced by considerations that details of an alarmist nature, or containing information regarding

possible circumstances that were generally beyond what could reasonably be contemplated, should be limited or appropriately qualified.

Canada. Add "*(c)* there is a system for ongoing communications with the public throughout an emergency." This would add an important element of communications with the public on appropriate measures.

CEC and MIACC. An additional clause *(c)* should be included requiring a system for ongoing communications with the public throughout an emergency. Dissemination of information should be made by the designated competent authority, which must ensure that the proper information is provided.

Ecuador. (b) Alarms or control systems should be installed in appropriate places to detect major risks, and members of the public should be immediately informed by means of alarms or specific signals that a major accident has occurred.

Ethiopia. (b) The warning should be given before the major accident, if possible, and otherwise as soon as possible after it has occurred.

Finland. (a) (ii) The type of danger concerned should be taken into account.

Germany. See the reply to Question 20.

Ireland. The information should be presented in an appropriate user-friendly manner and confidential process information should not be disclosed.

(a) (ii) An appropriate interval should be set, say every two to three years.

Italy. Attention should be given to the possibility of drafting an instrument which indicates to the competent authorities the kind of information to be provided and the manner in which it should be provided, with account being taken of the presumably different reactions in different areas, depending on social and cultural factors.

CONFINDUSTRIA. *(a)* No. Situations of psychological tensions would be created which could easily lead to unfounded collective psychoses. The competent authority should make timely arrangements for the establishment, in the event of a warning of a major accident, of an effective information service on the safety measures to be implemented and the behaviour to be adopted.

Japan. These matters are considered to be important but, in view of the mandate of the ILO, the objective should be confined to the viewpoint of protecting workers (see the reply to Question 12). The words, "without their having to request", should be deleted.

New Zealand. NZEF: *(a)* (i) The requirements should not be interpreted as meaning that information should be sent to any member of the public who claims an interest.

Norway. See the reply to Question 33.

Poland. (b) Also inform neighbouring countries which may be affected by the event, as required by the Convention on Early Notification of a Nuclear Accident (Vienna, 1986).

Portugal. (b) In the framework of the safety report and if it is linked to internal and external emergency plans.

CIP: *(a)* This is only justified in the event of an industrial disaster taking place.

CGTP: The information, plans and procedures should be disseminated to all concerned. There should also be obligatory regular drills on action to defend life and property in the event of an accident.

Spain. (a) (i) This clause should read: "Information on the appropriate safety measures and the impending safety measures that will be applied, as well as on the correct behaviour the public should adopt in the case of an accident, should be disseminated to members of the public liable to be affected by a major accident without their having to request it."

Swaziland. The information to the public should be in the local language.

Tunisia. (b) Depending on the seriousness of the accident and after consultation with the competent authority.

USSR. The updating and dissemination of information should be undertaken by the competent authorities in conjunction with the enterprise owner(s).

United Kingdom. (b) This duty is better covered as part of a more general duty to implement emergency plans in the event of a major accident or when an event occurs which could give rise to a major accident.

United States. It is also important that the employer establish a schedule of annual drills with the community to assist in the preparation for an emergency by the employees and community.

(b) This question points out the need for a precise definition of what is a "major accident" that threatens the public (see the reply to Question 6). There are industrial accidents that do not require public warnings.

Several replies directly or implicitly suggest that the intervals at which information is updated should be stated in more definite terms. In the view of the Office the qualifying word "appropriate" gives a degree of flexibility which takes account of widely differing conditions between major hazard installations. For the same reason, the Office hesitates to specify the kind of information, as proposed by the Government of Italy. The provision of a system for ongoing communications referred to by the Government of Canada can be regarded as an element of a system of major hazard control and, as such, more appropriate to the Recommendation. Other suggested amendments do not find wider support, and as all but three of the replies were in the affirmative, the provision is introduced with a drafting amendment into the Proposed Conclusions with a view to a Convention *(Point 18)*.

Accident reporting

Should the Convention provide that an employer should be required to report a major accident immediately to the competent authority and to other bodies designated for this purpose? **Qu. 22**

Total number of replies: 65.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopa, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 1. Japan.

Australia. Precisely what constitutes a "major accident" would need definition. It is recommended that articles 10 and 11 of the European Commission Paper (Outline Proposal for the Fundamental Review of Directive 82/501/EEC, Brussels, XI/237/91) be considered in relation to the ILO definition.

ACTU: Affected workers and their representative organisations must also be notified. The definition of "major accident" should be defined to include all potentially major incidents.

Canada. MIACC: This is also an opportunity to introduce the concept of reporting of "near misses" and to define the term.

Czechoslovakia. The report on a major accident should be sent also to the employers' representatives.

Finland. Near-misses should be reported as well as accidents proper.

STK: This should remain dependent on national practices.

KT: The instrument(s) should stress the importance of reporting accidents, establishing the reasons for them, and training investigators.

Hungary. Employers' organisations are opposed.

Ireland. This article should refer to major accidents as defined in the Convention rather than the more "traditional" accidents that might be major in their own right.

Italy. CONFINDUSTRIA: Yes.

Japan. The scope of hazards to be reported to the competent authority by an employer should be determined by national laws and ordinances since the domestic situations of member States are different.

New Zealand. NZEF: It is sufficient to state that such a report is required.

Spain. Yes, as well as accidents of a certain magnitude because there are cases in which it is difficult to predict their ultimate scale. Indeed, they might exceed the ability of the staff in the enterprise to cope with them.

Sweden. Serious incidents should also be reported, for the purpose of disseminating knowledge of deficiencies or weaknesses in training, systems, management, materials, etc.

Although the threat of a major accident is the subject of an amendment to Question 15 in terms of the preparation of emergency plans and procedures, the Office has difficulty in defining what several replies refer to as "near misses" or serious incidents. A widely drawn definition would result in a substantial increase in the scope of the provision. Whilst the Office acknowledges the importance of the point, it considers it proper to leave its resolution for discussion at the Conference. With a single exception all replies to this question were in the affirmative and it has been included in the Proposed Conclusions with a view to a Convention *(Point 19)*.

Qu. 23 *Should the Convention provide that the employer should also be required to present a detailed report to the competent authority containing an analysis of the causes of the major accident and describing any steps taken to mitigate the effects of the accident and to prevent a recurrence?*

Total number of replies: 65.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopa, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 1. Japan.

Australia. ACTU: The detailed report "should be prepared in consultation with employee representatives and must then be presented to both the employees and their organisations and to the public". A time-limit for reporting also needs to be included.

Belgium. The detailed written report should be sent to the competent authority within a given time-limit. It should provide a detailed description of the accident, its causes, the context in which it took place, the exposure suffered by the population or workers and the damage done to the environment. This information can then be used to help prevent similar accidents in the future.

Benin. Yes, in consultation with the members of the health and safety committee.

Canada. CEC and MIACC: The requirement for a detailed report needs further thought, particularly regarding the need to strike a balance between the time frame and the work required to compile the report.

Denmark. LO: "Near-miss" major accidents should be included in reporting requirements.

Ecuador. Not all employers will be suitably trained to take such action, which is why the competent authority should participate in the investigations of the primary and secondary causes of these accidents, as well as in defining corrective measures to be taken.

Finland. It should be ensured that accidents are impartially investigated. It is important that employers should report near-miss cases, and the reasons for them should be established.
STK: This should remain dependent on national practices.

France. CNPF: No.

Ireland. This report should be presented as soon as practicable after the accident. If the "cause" cannot be determined, then all available information that would allow an adequate analysis of the potential causes should be made available.

Italy. CONFINDUSTRIA: Yes.

Japan. The scope of hazards on which reports must be submitted to the competent authority by an employer should be determined by national laws and ordinances since member countries are in different domestic situations.
RENGO: Yes, but the control by the authority should be mentioned also.

Mexico. CONCAMIN: With an indication of any shortcomings in the accident prevention system originally reported to the competent authority.

New Zealand. No time frame for this latter requirement is suggested in either the proposed Convention or the ILO code of practice. The report should be compiled within one month of the major accident; this is sufficient time to compile a report on something

as potentially (or actually) serious as a major accident and not too much time that the details fade from some memories.

Norway. The Convention should require the employer to undertake an investigation into the accident. The resulting report should be published.

Spain. The report should also describe: the circumstances in which the accident occurred; the way in which existing safety measures were able to cope with the situation; the repercussions of the accident on persons, property and environment. The content of the report should be standardised.

Suriname. This detailed report should be made within a certain period, e.g. six months to one year.

Sweden. Accidents and incidents must be reported within a specified period (we suggest three months) to the competent authority. These reports should also describe measures taken to prevent the recurrence of a major accident.

United Kingdom. CBI: No. We would prefer a wording similar to that of article 10 of the Seveso Directive of the EC.

United States. The employer should not only be required to undertake a "major accident" investigation analysis and report, he should also be required to prepare incident reports. Both types of reports would be required to be provided to the competent authority during an inspection.

USCIB: A detailed report should be required. However, it should be limited to statements of fact. Issues of the cause of a major accident go directly to liability which can only be resolved through a determination by a neutral fact-finder such as a court.

Several replies propose the specification of a given time-limit; however, views as to what the limit should be vary considerably. In the opinion of the Office this may weaken the existing words of the question which implies that the report should be presented as soon as practicable. The reporting of "near misses" was discussed in the Office commentary on the previous question, and similar reservations apply here. In order to complete the report, an investigation by the employer, or those acting on his behalf, would be necessary and the general words used in the question are thought by the Office to cover the various matters suggested as ingredients of a detailed report. The action to be taken by the competent authority on receipt of the report is thought to be outside the scope of the question. There is almost complete agreement in the replies that a detailed report should be submitted and, accordingly, the Office has introduced the provision, without amendment, in the Proposed Conclusions with a view to a Convention *(Point 20)*.

Siting of major hazard installations

Qu. 24 *Should the Convention provide that the competent authority should establish a siting and land-use policy for major hazard installations to arrange, where appropriate, for their separation from other major hazard installations, from residential and working areas and from public facilities?*

Total number of replies: 65.

Affirmative: 57. Algeria, Argentina, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Gabon, Honduras, Hungary, Iceland, Indonesia, Iraq, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, Nigeria, Norway, Pakistan, Poland, Portugal, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. France.

Other: 7. Australia, Bolivia, Finland, Germany, Japan, New Zealand, Qatar.

Argentina. This should be compatible with existing legislation on land use.

Australia. The competent authority responsible for land-use policy development and the application of regulations which cover new (or modified) installations is frequently a different competent authority to that administering occupational health and safety laws, and different again to a further competent authority administering environmental protection laws. Policy in respect of land use needs to be harmonised for new (or modified) and for existing installations. However, the same rules cannot apply in the two cases, except over an extended time frame, in order to save social and economic disruption.

ACTU: Provision of control by competent authorities is essential and the issue of separation of installations from each other should not be generalised.

CAI: Different considerations may need to apply in regard to pre-existing facilities and new facilities.

Belgium. In drawing up this policy, authorities other than those which generally take care of occupational safety should be involved and, thus, this Convention is maybe not the right place to make such a demand on Members. For this reason, "provide that" should be changed to "recommends".

CNT: Land-use policies in this area are essential in relation to the problems of protection. In this respect, there is an important aspect that is not dealt with in the text concerning the contents of a possible ILO Convention. The questionnaire contains no proposal requiring States to engage in trans-frontier collaboration for the implementation of such a Convention.

It is evident however that where potentially hazardous installations are situated in proximity on both sides of a frontier, the effects, in the case of a disaster, could be very considerable.

Bolivia. The wording of this question needs to be simpler and clearer.

Brazil. Yes, if the national land-use policy and the social and economic development strategy of the country allow such a provision.

AGITRA: On the basis of experience and to prevent the domino effect, the competent authority must, at all costs, establish such a policy.

Canada. CEC: The provision should allow for multiple jurisdictions in siting and land-use policy.

CLC: This should not suggest that hazard precautions should be different when the installation is located away from urban centres, for example.

Cuba. Account should be taken of the particular characteristics of each country.

Finland. This would be better suited to the Recommendation.

France. The instrument is not suited for such a provision.

Germany. Refer to the answer for Question 20.
Federal Chemical Employers' Organisation: Such a policy is not feasible under all conditions.

Hungary. This is desirable if it is possible.

Ireland. The Convention should refer to the involvement of local authorities (i.e. planning) in the policy.

Italy. CONFINDUSTRIA: Yes.

Japan. The "residential areas" and "public facilities" should be mentioned only as matters to be considered.

Kenya. A strict zoning system is important so as to reduce risks to human health and habitat.

Netherlands. RCO: This provision alone is not sufficient. There should also be control on government policy and the government should be obliged to report on action taken.

New Zealand. A different competent authority will be responsible for this matter than for most of the preceding provisions.
In the international context this could be one of the issues, referred to in Question 10, that individual Members lacking the specific resources could choose to delay implementing if circumstances so dictate.

Norway. Yes, but the enterprise must be responsible for land use within its own boundaries. When an enterprise has been lawfully sited it must be the authorities' responsibility to ensure that land is not put to other uses which alter the risk assumptions underlying the original siting.

Portugal. CIP: The policy should include measures to offset any possible increase in costs borne by the employer and incurred through relocating the installation or transferring it to a less appropriate site, if such a policy does not exist. These measures should not apply to industrial units which have already been sited.
CGTP: Local authorities and civil protection bodies should be involved.

Qatar. It is preferable to include this provision in a Recommendation.

Singapore. Member States should be able to vary their policy according to national interests, priorities and national practical constraints.

Switzerland. Furthermore, legislation respecting the protection of workers and fire prevention requires the separation of the dangerous parts of enterprises from those which are not dangerous, or from other enterprises.

USSR. The decision on allocating land for the construction of an installation should be taken by the competent authority.

United Kingdom. The wording adopted must make it clear that land-use planning needs to cover (i) proposals for new major hazard installations; (ii) developments on existing major hazard sites; (iii) other developments in the vicinity of existing sites.

United States. Such policy should apply to new establishments without exception. For installations already built, the policy should require mitigation steps to help minimise the effect of an incident to the public.

Several replies mention that the establishment of a siting and land-use policy will involve public authorities other than the competent authority for the purposes of the proposed instruments and doubt that the provision is appropriate for the proposed instruments, or suggest that if retained it be placed

in a Recommendation. The great majority of replies, however, is in the affirmative and the Office has incorporated the provision without amendment in the Proposed Conclusions with a view to a Convention *(Point 21)*. Several replies stress that such a policy may need to be different for new and existing installations and that land use in the vicinity of an installation needs to be controlled. The Office considers that the present general wording allows for such elements of a policy without the need for specification.

Inspection

Should the Convention provide that the competent authority should provide specific training for those inspectors who are engaged in the inspection of major hazard installations, in the assessment of safety reports and in the investigation of major accidents, and arrange for such technical and professional support as may be necessary? **Qu. 25**

Total number of replies: 64.

Affirmative: 61. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 2. France, Netherlands.

Other: 1. Japan.

Australia. The proposed article should also cover the verification of safety reports; adequate numbers of inspectors; access to installations; the ability of the inspectorate to enforce as well as investigate and assess.

Belgium. Inspectors should play a major role in preventing major accidents. Obviously, this task can only be carried out by suitably trained inspectors. However, the organisation of labour inspections seems to fall outside the framework of this Convention, given that it is already covered by the Labour Inspection Convention, 1947 (No. 81) and Recommendations Nos. 81, 82 and 160. If Members need to revise or update existing instruments, it would be more reasonable to do so rather than introduce this form of specific requirement into the Convention.

CNT: It is not solely a question of the competence of the experts as such, but also that of the workers in the enterprise; this is too often forgotten. Workers can also make an important contribution in updating the situation, which they experience daily. Although it is very constructive to speak about the training of the inspectors, more precision is needed regarding their role.

The competent authority must also be responsible for verifying the accuracy of the notifications, the evaluation of hazards and the preventive measures taken. The preventive services within the enterprise should also play a role.

Bolivia. Material assistance should also be provided by the employer.

Cameroon. This poses a problem of lack of training and of means. In practice, the administration does not have sufficient qualified and trained personnel, nor adequate means to carry out properly the technical inspections which may be required.

Canada. As stated at page 28 of ILO Report V (1), this should not "require in the proposed instrument(s) that member States set up a system of inspection *per se*. All industrial installations are likely already to be subject to inspection under basic safety and health legislation."

Finland. KT: See the answer to Question 22.

France. The instrument is not suited for this provision.

Ireland. The Convention should refer to the vital role of "inspections" in the control mechanism.

Italy. CONFINDUSTRIA: Yes.

Japan. As for the inspection of major hazard installations, the provisions for the assessment of safety reports and the investigation of major accidents, the provisions should be flexible since domestic situations differ from country to country. They should include other effective formulas such as notification to the competent authority of the installation standards, and any confirmation and permission given by the authority.

Netherlands. No, this should not be in the Convention. It may be better in the Recommendation.
RCO: Yes. This is essential.

New Zealand. Again, this may be an area where a Member's resources may dictate whether and to what extent the provision can be complied with.
NZEF: There is little point in requiring information to be provided to and acted upon by the "competent authority" if the authority does not have personnel competent to do the job.

Singapore. Member States should determine the type and extent of the training to meet their specific requirements.

United Kingdom. The duty needs to be wider: the competent authority needs to set up arrangements for inspection and enforcement, carried out by adequately trained and supported staff.
TUC: National legislation should be capable of imposing punitive fines and/or imprisonment on employers and owners who failed to ensure the safe management of major hazard installations under their control.

United States. Alternative methods of ensuring that adequate inspections are carried out would involve a third party analysis for smaller installations that may not have competent in-house personnel to perform a thorough hazard analysis on site.

The replies to this question in the main express a wish that the provision be substantially extended to include reference to such matters as the recruitment and number of inspectors, verification of safety reports, access to sites and enforcement. The Office holds to its view, quoted by the Government of Canada, that major hazard installations are likely to be subject to inspection under basic safety and health legislation and that reference to the Occupational Safety and Health Convention, 1981, in the proposed Preamble makes it unnecessary to require in the present instrument(s) that member States set up a

system of inspection. For that reason, it has not amended the text of the question. Since the great majority of replies were in the affirmative, the question has incorporated in the Proposed Conclusions with a view to a Convention *(Point 22)*.

Rights of workers

Qu. 26

Should the Convention provide that the workers employed at the site of a major hazard installation should:

(a) *be adequately and suitably informed of the hazards associated with the major hazard installation;*

(b) *have the right to participate in the preparation of —*

(i) the safety report;

(ii) the emergency plans and procedures;

(iii) the accident reports;

(c) *be instructed and trained in the procedures and practices for the prevention and control of major hazards and the emergency procedures to be followed in the event of a major accident?*

Total number of replies: 65.

Affirmative: 64. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada [negative to *(b)*], Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Ireland, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal [negative to *(b)*], Qatar, Romania, Saudi Arabia, Singapore [negative to *(b)*], Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland [negative to *(b)*], Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR [negative to *(b)*], United Kingdom, United States, Uruguay [negative to *(a)* (i) and (ii)], Zambia.

Negative: 1. India.

Australia. (b) Workers should have the right to participate in the preparation of the safety reports and emergency procedures if they have the necessary expertise.

ACTU: The statement of rights should be strengthened to include adequate and suitable information and training on the risks as well as the hazards and should refer specifically to worker representatives. The right to participate should extend to the preparation of the "System of Major Hazard Control". The rights of workers should make specific reference to their right to cease work by both individual and collective decision. It should be a criminal offence for employers to attempt to detain workers within a hazardous installation in the event of a major incident. Workers' rights should also refer specifically to their right not to undertake any specific work in a hazardous installation in relation to which they have not been appropriately trained and for which there is not adequate supervision or where there is not a safe system of work in place.

CAI: This paragraph should refer to appropriate consultation with relevant employees. It may not be practical or necessary to involve all employees in the processes envisaged.

Austria. Provision should be made for the participation of the representatives of plant workers.

Belgium. The workers and their representatives should also have access to the safety report.

Brazil. AGITRA: The workers should also be informed of the hazards to which they might be exposed and be able to take part in training programmes.

Cameroon. (b) (i) Through their representatives.

Canada. (b) Change "have the right to participate" to "have the right to be consulted, through inter alia their representatives or safety and health committees where these exist". Affording workers the right to participate directly in the preparation of safety and accident reports and emergency plans and procedures may not be feasible and would not be consistent with the national situation. Employee involvement in these matters is carried out through their representatives or safety and health committees.
CEC and MIACC: The provision should encourage the use of existing channels for communication with workers (e.g. joint health and safety committees).

Denmark. LO: *(a)* Should include all workers; *(b)* should include safety representatives; *(c)* should distinguish between workers operating installations, members of the safety committee, if any, and other workers.

Ecuador. (b) Although workers may have the right to participate through their representatives, it is the competent authority that must prepare the safety report and the emergency plans and procedures, and draft the accident reports.

Finland. SAK and TVK: Workers' representatives should also have the right to take part in inspections at the workplace.

France. CNPF: *(b)* No.

Germany. Federal Chemical Employers' Organisation: *(b)* The direct participation of workers in the preparation of safety reports is not possible.
(c) It is enough to instruct workers.

India. The subject being highly technical, it may not in all cases be feasible to have effective and constructive participation of workers in these activities. The provision should be transferred to a Recommendation.

Ireland. (b) The extent of the workers' participation should depend on their experience and training, i.e. only workers with experience in carrying out safety audits, major accident hazard and risk assessments should participate in (i), (ii) and (iii). All workers should not be automatically entitled to participate in the preparation of these reports.

Italy. CONFINDUSTRIA: *(a)* Yes. *(b)* No.

Japan. (b) Should include reference to workers' representatives.
RENGO: This provision is not sufficient. In addition, the following two measures should be added: (1) The establishment of a permanent committee for safety composed by the employer and workers; (2) the right of workers to emergency refuge.

Malta. Employees should be medically examined prior to employment and at appropriate intervals thereafter to ensure their fitness for the hazardous work involved.

Netherlands. RCO: *(b)* Workers should not participate in these activities, which are the employer's prerogative and even obligation. The workers should receive a copy of these reports, plans and procedures for information.

New Zealand. In the preparation of accident reports the involvement of workers is very often fundamental to determining the sequence of causative steps leading up to the accident and therefore to effective remedial measures.

NZEF: Workers should be adequately and suitably informed of the hazards associated with major hazard installations and instructed and trained in prevention and emergency procedures. Workers should be involved in and be consulted about the preparation of the emergency plans and procedures, but not that of the safety report; workers should not "have the right to participate" in processes which are (legally) the responsibility of the employer.

Norway. The workers' right to training and the employers' responsibilities must be made clear.

Portugal. (b) No. The workers should be consulted during the preparation of the documents.

CGTP-IN: *(b)* Participation should be encouraged through workers' organisations.

(c) Training drills should be included in such procedures and practices.

CIP: *(b)* No. Such participation is impracticable.

Singapore. The requirement should be to consult workers where appropriate.

Spain. (b) (iii) No. The preparation of the safety report should be the sole responsibility of the employer.

A new paragraph should be added concerning the active participation of workers in the revision and checking of the effectiveness of existing safety measures, to read as follows: "*(d)* have the right, directly or through their representatives, to inspect the installation and to ensure that the required safety measures are complied with."

Swaziland. Participation of workers should be through trained safety representatives or safety officers.

Syrian Arab Republic. Workers should be fully informed, have the right to take part in studies on safety measures and provided with instruction and training in procedures and practices for the prevention and control of major hazards, as well as emergency procedures to be followed in the event of a major accident.

Turkey. (b) Workers' participation should be realised through their representatives.

United Kingdom. (b) The duty should be "to be consulted on" rather than "to participate in". The duties should be extended to cover protection for employees carrying out duties under emergency plans.

CBI: *(b)* Delete the words "have the right" and add "as appropriate" after "participate".

TUC: The appropriate means for establishing and developing these rights is through the workers' representative organisations.

United States. For employees to be able to respond to emergency situations, they must be aware of the current, proper and safe procedures to follow. Therefore, if any change in the hazard process occurs, employees should be notified immediately.

USCIB: *(b)* Workers should be able to participate in safety matters and can make a valuable contribution in this regard. However, the final decision-making authority and ultimate responsibility reside with the employer.

Whilst the replies express the overwhelming agreement that workers should be involved in the preparation of safety reports, emergency plans and procedures and accident reports, although the responsibility for the reports remains with the employer, there is a divergence of views as to whether this involvement should be expressed as "participation" or "consultation". As the balance of the argument is not clear, the Office has left the wording of this particular provision unchanged and would comment only that it would appear

to be satisfied if only those workers with the necessary knowledge or qualifictions were to participate.

Some replies emphasise the need to work through safety committees and safety representatives where these exist; while the Office commends this approach, it does not believe that the detail of how participation should be arranged, which varies from installation to installation, is appropriate for inclusion in the provision. Some of the other matters mentioned in replies, e.g. medical examination, workers' inspections of the installation, the right to refuse to work in dangerous situations, again are thought to involve matters of general occupational safety and health which are dealt with in Convention No. 155.

Several replies make reference to the role of workers' representatives. The Office does not regard the text of the question as excluding the involvement of workers' representatives at the installation and has not, therefore, seen a need to refer to them specifically. The provision has accordingly been incorporated, with a minor textual change, in the Proposed Conclusions with a view to a Convention *(Point 23)*.

Duties of workers

Qu. 27 *Should the Convention provide that such workers should be required to:*

(a) *comply with all procedures and practices relating to the prevention of major accidents within the major hazard installations;*

(b) *comply with all emergency procedures should a major accident occur?*

Total number of replies: 64.

Affirmative: 63. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Ecuador, Egypt, Ethiopia, Finland, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Ireland, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Saudi Arabia, Singapore, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Other: 1. Denmark.

Australia. ACTU: Subject to their being consulted about and trained in agreed procedures.

Czechoslovakia. Add a new clause requiring workers to report immediately any irregularity found which could cause an accident.

Denmark. The duties of the workers should be governed exclusively by national rules.

Egypt. (b) This should follow training in such procedures and practices.

Germany. DGB: These provisions are too broad.

Italy. CONFINDUSTRIA: Yes.

Japan. RENGO: Yes, in principle, with the addition of a right to emergency refuge.

Malta. The question should also emphasise the duty of the employee to take all necessary precautions and safeguards as well as to cooperate with the employer in all the necessary procedures and practices for the prevention and control of major hazards and the emergency procedures to be followed in the event of a major accident.

Netherlands. FNV: Yes, when their safety can be guaranteed.

New Zealand. Not only should workers have rights, but they must also accept certain duties.

Norway. The workers' rights and duties should in addition be specified in detail in the Recommendation.

Portugal. A clause *(c)* should be added, requiring the workers to inform their supervisors in enterprises, establishments or installations of any damage or malfunction which has come to their notice and which may be dangerous.

CGTP: The workers should be fully informed of their obligations, and procedures should be approved by the competent authority.

Spain. Add the following clause: "*(c)* inform the employer of any faults or shortcomings they detect at their workplace that might, either directly or indirectly, lead to a major accident."

United Kingdom. (b) The duty should be qualified by insertion of the word "reasonable" before the words "emergency procedures".

Some replies refer to the duty of the workers to report circumstances which might lead to a major accident and otherwise to cooperate with the employer in the discharge of his duties. The Office believes that the question, as presently worded, is sufficient to encompass such duties, and as all but one of the replies are in the affirmative, the provision has been included, without amendment, in the Proposed Conclusions with a view to a Convention *(Point 24)*.

V. Contents of a Recommendation

If, in reply to Question 2, you considered that the instrument(s) should take the form of a Convention supplemented by a Recommendation, should the Recommendation provide that its provisions should be applied in conjunction with those of the Convention? **Qu. 28**

Total number of replies: 54.

Affirmative: 50. Argentina, Australia, Austria, Bahrain, Belarus, Benin, Bolivia, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland,

Indonesia, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Suriname, Swaziland, Sweden, Switzerland, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 4. Algeria, Belgium, Ireland, Nigeria.

Belgium. No. ILO Recommendations are instruments which are not submitted for ratification. The provisions of the Recommendation should be used as guidelines for implementing the Convention.

Benin. Substitute the word "may" for "should".

Brazil. AGITRA: Member States should be able to apply regulations in a manner most appropriate to the situation prevailing in their country.

Chile. CPC: No.

Ireland. No, the provisions of the Recommendation should be used only as guidelines for the implementation of the Convention.

Italy. CONFINDUSTRIA: No. The Recommendation should establish more complete and detailed provisions than those of the Convention, although such provisions should not be obligatory.

Netherlands. RCO: No. Experience should first be gained with the application of the code of practice. After some years a decision could then be taken on the need for a Recommendation.

United Kingdom. The connection between the Convention and the code of practice should be flexible. This might best be achieved by replacing "in conjunction with" by "should be taken into account when implementing".

United States. USCIB: No. The effect of applying the provisions of the Recommendation in conjunction with those of the Convention would be to expand the scope and binding nature of the Convention.

Although some textual amendments are suggested in replies, these are in isolation and, as the great majority of replies are in the affirmative, the Office has incorporated the provision, without amendment, in the Proposed Conclusions with a view to a Recommendation *(Point 25).*

Qu. 29 *Should the Recommendation provide that the national laws or regulations to give effect to the policy for the prevention of industrial disasters, provided for in the Convention, be based, as far as possible, on the ILO* Code of practice on the prevention of major industrial accidents, *the publication of which was approved by the Governing Body of the ILO in November 1990?*

Total number of replies: 62.

Affirmative: 59. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon,

Germany, Honduras, Hungary, Iceland, Indonesia, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Qatar, Romania, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 1. Portugal.

Other: 2. Japan, Singapore.

Australia. ACTU: The code of practice would need to be modified to eliminate the exclusions.

Canada. Yes. However, measures for the prevention of industrial disasters need not always require legislation.
MIACC: Legislation alone is not the answer to reducing the number and frequency of major industrial accidents. This may be achieved through other means which concentrate on the cooperative, consultative approach.

Iceland. Except where member States have higher standards.

Italy. CONFINDUSTRIA: Yes.

Japan. Since the ILO code of practice provides only one formula and lacks flexibility, the words "be based on" should be replaced by, for example, "refer to".

Nigeria. Provided there are no better codes of practice of international application to supersede the ILO code in existence.

Portugal. No. Although the ILO code of practice is, and should be, the inspiration behind the regulations, it should not form the basis of an international instrument.
CIP: The ILO code of practice should provide only the guidelines.

Singapore. Each member State should enact its own legislation and regulations for major hazard control in light of its own experience and practical constraints. The ILO *Code of practice on prevention of major industrial accidents* may be used as a guideline.

Spain. It would be advisable to provide additional technical guidelines in the form of an annex to facilitate the drawing up of enterprise and government safety reports and emergency programmes.

United States. USCIB: Because some national laws and regulations have been developed prior to or independent of the ILO code of practice, laws and regulations "compatible with" the code should be equally acceptable to those "based upon" the code.

The great majority of replies are in the affirmative. Several replies refer to the existence of other acceptable forms of advice on which, in some cases, national laws and regulations are already based. To reflect the tenor of these replies, the Office has amended the text of the question to provide that the ILO code of practice be used as guidance, a formula proposed by the Government of Singapore. So amended and with minor drafting changes, the provision has been included in the Proposed Conclusions with a view to a Recommendation *(Point 27).*

Qu. 30 *Should the Recommendation provide that the ILO should arrange for an international exchange of information on major accidents and that member States should be encouraged to make reports on major accidents publicly available, and, where this is not possible, to exchange reports under specified conditions?*

Total number of replies: 62.

Affirmative: 59. Algeria, Argentina, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Brazil, Cameroon, Canada, Chile, China, Cuba, Czechoslovakia, Denmark, Ecuador, Egypt, Ethiopia, Finland, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Japan, Jordan, Kenya, Mali, Malta, Mexico, Morocco, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Portugal, Qatar, Romania, Singapore, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tunisia, Turkey, Ukraine, USSR, United Kingdom, United States, Uruguay, Zambia.

Negative: 3. France, Ireland, Spain.

Australia. The Recommendation should provide for the ILO to cooperate with OECD and United Nations units which have common interests and which are already collecting international information of this type.

Belgium. This would make a considerable improvement in protection from, and in the prevention and understanding of, events leading to such accidents. However, it is too early to introduce such a system into the framework of the ILO without taking into account the role of other international organisations and the aim of information exchanges. Furthermore, there is some doubt concerning the usefulness of systematically publishing all reports on major accidents. The information in such reports is often used in legal proceedings to determine responsibility. Some information is compiled just for the use of specialists. However, there is room for encouraging discussion and frank explanations of any incident of the kind covered by the Convention.

Canada. MIACC: The ILO, UNEP and OECD are appropriate organisations to deal with notifications of major accidents and should work together.

Denmark. In close cooperation with other international organisations.

Germany. Federal Chemical Employers' Organisation: The safety report should not be made public.

Ireland. Major accident reports should not be made publicly available but rather general information should be available for statistical purposes.

Italy. CONFINDUSTRIA: Yes.

New Zealand. The ILO is best placed to provide this arrangement.

Norway. Duplication of work with other international organisations should be avoided in this context.
NHO: This should be placed in the Recommendation

Portugal. A system by which information can be exchanged should be created (i.e. with the OECD, UNEP and others). The reference made to these organisations in Question 5 justifies this action.

Spain. This matter exceeds the competence of the ILO.

Tunisia. The methods for the proposed exchange of information should be defined.

United States. USCIB: Some provision should be made to protect rights of ownership, confidential business information and trade secrets.

As all but three of the replies were in the affirmative, the provision has been incorporated in the Proposed Conclusions with a view to a Recommendation *(Point 26)*. The individual replies did not lead the Office to believe that any amendment to the text was required.

VI. Special problems

(1) Are there particularities of national law or practice which, in your view, are liable to create difficulties in the practical application of the proposed instrument(s) as conceived in this report? **Qu. 31**

(2) If so, how would you suggest that these difficulties be met?

Total number of replies: 62.

Affirmative: 17. Australia, Bangladesh, Belarus, Canada, Chile, Cyprus, Denmark, Egypt, Finland, Hungary, Japan, Netherlands, Nigeria, Singapore, United States, Uruguay, Zambia.

Negative: 45. Algeria, Argentina, Austria, Bahrain, Belgium, Benin, Bolivia, Brazil, Cameroon, China, Cuba, Czechoslovakia, Ecuador, Ethiopia, France, Gabon, Germany, Honduras, Iceland, India, Indonesia, Ireland, Jordan, Kenya, Mali, Malta, Mexico, Myanmar, New Zealand, Pakistan, Poland, Portugal, Qatar, Romania, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Turkey, Ukraine, USSR, United Kingdom.

Australia. (1) The question of how to arrive at a coordinated and cooperative arrangement between the various competent authorities and government departments may require careful attention.

(2) These difficulties could be mitigated by consultation, and by introducing legislation to fill in any gaps.

ACTU: (1) The complexity and the number of authorities within the states which are responsible.

(2) A federal approach must be adopted. Action would be needed by the states to adopt the Convention directly. Federal adoption should address issues of shipping, interstate transport of dangerous goods, etc.

Bangladesh. (1) There is no legal barrier but, due to financial problems, it would be difficult to create the necessary administrative and other facilities to implement the provisions of the proposed instrument(s).

(2) Bangladesh may not ratify the instrument until the necessary facilities are created.

Belarus. Yes, owing to the absence of the necessary legislative Acts. No procedures have been established, the need for entrepreneurs to compile a safety report and present it to the competent body has not been stressed and the rights and duties of workers, in the light of the proposed Convention, have not been defined.

Benin. Workers' organisations: Yes, where member States have not ratified any Conventions relating to health and safety at work.

Canada. Canada is a federal State and action in the areas covered by the proposed instrument(s) may involve, as the case may be, federal, provincial, or territorial jurisdiction, with local municipalities playing a significant role. Moreover, the scope of the proposed instrument(s) includes not only workplace health and safety but also public emergency planning and environmental protection, which are subject in each jurisdiction to different legislation and practice and to several competent authorities. Cooperative efforts will be necessary, such as, for example, those undertaken by the MIACC whose participants include government, industry, labour and other groups.

CEC: The approach taken by the MIACC should be encouraged where there are multiple jurisdictions and where voluntary initiatives can be used effectively.

CLC: In federal States there has to be effective central coordination of disaster plans, and there has to be the power to "nationalise" disaster plans and responses.

Chile. (2) By means of persuasion and the enforcement of minimum acceptable standards.

Cyprus. (1) Yes. Small countries may not have the expertise and resources to formulate and implement effectively a major hazard control policy.

(2) The ILO or other international organisations should launch a programme under which technical assistance could be provided in the form of experts and training. Evaluation of safety reports at the initial stages could be made by the national competent authorities assisted under this project. Furthermore, a group of experts could be formed under this project, to which national authorities could apply for advice and expert opinion in implementing legislation at the national level.

Finland. (1) The Convention and Recommendation should recognise that there are several component areas involved in the prevention of major accidents, such as labour protection, environmental protection, town planning, prevention of accidents, technical inspection and contingency plans by institutions and local authorities. In most countries these areas are divided among several different authorities. The question of cooperation between authorities should therefore be given special attention when the Convention is being drawn up. The duty of industry and the authorities to cooperate should also be written in as a central principle and should be applied to all functions.

Germany. Federal Chemical Employers' Organisation: The legal provisions must be respected.

Italy. CONFINDUSTRIA: No.

Japan. Japan has adopted a control method which differs from the one described in the Office report, and which has led to the highest level of accident prevention. Japan is not in a situation which requires the introduction of a new method of control. It is necessary to achieve coherence between the different bodies of law, that is, the protection of the public and that of the environment.

Netherlands. Major hazard control is not restricted to occupational safety and health. The competent authority may therefore consist of several parties and government institutions.

Nigeria. Overlapping legislation, particularly in the developing countries, is liable to create difficulties. Inadequate human and material resources may also pose a problem.

Portugal. A single body should be created, with primary responsibility for coordinating and applying the provisions of these instruments at national level. This body should also include workers' technical representatives.

Singapore. (2) Allowing flexibility without sacrificing standards may be necessary.

Switzerland. The worker participation issue may pose problems.

Ukraine. (2) There should be a uniform list of appropriate criteria relating to potential dangers.

USSR. In exceptional circumstances and in agreement with the ILO, a member State should be allowed not to apply certain provisions of the Convention.

United States. The only anticipated difficulty in practical application regards siting and land-use provisions. Regulation or additional legislation can adequately address the issues. However, it would be very difficult to prohibit public encroachment in the case of existing plants where encroachment has already occurred. The best solution in the latter case is to require the installation to implement additional controls to help minimise the effect of a release or incident.

Zambia. (1) At present there are different agencies of the State involved in the control of major hazards in different establishments: this makes coordination difficult.
(2) These difficulties can be overcome by establishing a central coordinating agency with representatives from different organisations.

Foremost among the problems mentioned are those which may arise from multiple jurisdictions: in some member States, several public authorities are responsible for aspects of major hazard control, particularly when these relate to emergency plans and procedures affecting the public and the environment off the site of the major hazard installation. The need for consultation and cooperation is stressed in several replies. The problems likely to be faced by developing countries in implementing the provisions of the proposed instruments are referred to in replies to this and several other questions. This has been acknowledged by provision for the progressive implementation of the preventive and protective measures *(Point 8)* and by the ability of competent authorities to use criteria developed by approved or recognised bodies *(Point 10)*.

(Federal States only.) Do you consider that, in the event of the instrument(s) being adopted, the subject-matter would be appropriate for federal action, or wholly or in part for action by the constitutent units of the federation? **Qu. 32**

Total number of replies: 14.

Affirmative for federal action only: 6. Austria, Brazil, India, Mexico, Nigeria, Switzerland.

Affirmative for action by constituent units of the federation: 8. Argentina, Australia, Canada, Czechoslovakia, Germany, Pakistan, USSR, United States.

Australia. CAI: Standards developed by the National Ocupational Health and Safety Commission do not have any binding effect upon the various states but are provided in the form of recommendations only. The adoption by states and implementation through subsequent legislation cannot be therefore presumed. These difficulties can best be met by ensuring that such standards have the support of all states prior to implementation.

Canada. See the reply to Question 31.
MIACC: Interagency coordination is what should be sought, which may require the establishment of new coordinating mechanisms.

Czechoslovakia. Partly for measures at the level of the federation and partly for measures at the level of federal constitutional units.

India. The subject-matter is within the legislative competence of the central Government. The enforcement of the statute on safety, health and welfare of workers in factories is in the hands of the state governments, while in respect of workers in mines and docks, the enforcement functions are discharged by the central Government.

Nigeria. Yes. Constituent units of the federation should only enforce where their respective standards are equal or higher than those of the federation.

United States. While it may be beneficial to adopt the instrument through federal action, in this country federal law regarding job safety and health prevails except in those states that have an approved plan. States are encouraged to develop and operate their plans under guidance from OSHA and their plans must be at least as effective as the federal plan.

Qu. 33 *Are there, in your opinion, any other pertinent problems not covered by the present questionnaire which ought to be taken into consideration when the instrument(s) are being drafted? If so, please specify which.*

Total number of replies: 53.

Affirmative: 21. Bolivia, Cameroon, Czechoslovakia, Denmark, Ecuador, Egypt, Finland, Malta, Norway, Poland, Portugal, Romania, Singapore, Spain, Sudan, Swaziland, Sweden, Turkey, United Kingdom, United States, Uruguay.

Negative: 32. Argentina, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Brazil, Canada, China, Cuba, Ethiopia, France, Gabon, Germany, Honduras, Hungary, Iceland, Indonesia, Ireland, Kenya, Mexico, Myanmar, Netherlands, New Zealand, Nigeria, Pakistan, Qatar, Suriname, Switzerland, USSR, Zambia.

Australia. ACTU: A major problem relates to the transport, especially in bulk by sea, of substances whose nature and quantity would — or rather should — make the ship a major hazard installation. The emphasis in the draft instrument is overtly directed to considerations of safety. There are aspects of both health and environmental protection which need to be considered. That is, some systems of storage and handling of hazardous materials may constitute a minimal risk to safety, yet a gross risk to health. Equally, a system which discharges overflow or leaking hazardous material to sewer or storm water may, again, be safe, but is an environmental disaster. Significant strengthening of the proposed Convention in these two areas is warranted.

Control of the use and quality of plant and equipment needs to be addressed. This should also be addressed in the context of minimum international standards, supplemented by federal or state regulation. The problem of transnational dumping of second-hand plant is of concern, also. The use of unsafe plant, including shipping, is a dimension very much in need of attention in this Convention.

Bolivia. In certain countries there are many state bodies whose functions with regard to occupational safety and health overlap or are duplicated; this makes it difficult to establish and designate a competent authority.

Canada. CLC: See the reply to Question 11.

MIACC: Provision should be made to establish an international process that would aid in providing training programmes and manuals for use by countries. Also the existence of financial packages from the World Bank and the IMF will ensure that this process happens.

Czechoslovakia. (a) Major industrial accidents and disasters the consequences of which go beyond national borders. *(b)* The duty of project organisations as well as the producers of installations to prepare separate safety reports as a part of the original technical documentation, for approval by the appropriate inspection bodies. *(c)* National databases on substances, types of installation and questions of their siting.

Denmark. It is proposed to establish contact between the ILO, the United Nations and the EC with a view to ensuring, to the widest possible extent, a coordination of the ILO Recommendation, the ECE Convention and the revised version of Directive 82/501/EEC. The three texts apply to the same types of enterprises and have the same purpose: to prevent major industrial accidents and to mitigate the consequences of such accidents.

Ecuador. When the instrument(s) are being drafted it will be necessary to take into account the manufacture and distribution of explosives by armies as well as the use of nuclear energy for peaceful purposes and the installation of nuclear power stations in different countries.

Egypt. Lack of information on the subject of major hazards. This requires more participation in undertaking studies of the Arab region, in collaboration with the ILO. Increased awareness of hazards between governments and employers' and workers' organisations is necessary.

Finland. At both the corporate and the government level, an information system on accident risks is needed. It may therefore be a good idea to include stipulations regarding an information system in the instruments being drawn up. At the government level, the following registers might well be useful: (1) facilities at risk of a major accident; (2) substances in use posing a risk of major accident; (3) domestic and foreign experts specialising in accident prevention and action subsequent to accidents; (4) training register; (5) major accident register; (6) supervision register.

France. The competent authorities should be technically highly qualified to exercise an effective control system. In the transfer of technology, the exporting country should ensure the safe use of the technology concerned.

Japan. RENGO: Participation of trade unions should be reinforced.

Malta. A general observation concerns the lack of emphasis throughout the questionnaire on the role of the social partners. In essential parts of the instruments requiring the competent authority to provide for laws, regulations and other measures, consultations throughout with the most representative organisations of employers and workers should be stressed. Without such cooperation all efforts at preventing a major accident are bound to fail.

Netherlands. FNV: The Convention should provide maximum risk level(s) for major hazard equipment/installation. Without such a provision the function of the Convention would be rather arbitrary.

Norway. The questionnaire does not include the rights of and participation by the general public in relation to hazardous activities. The ILO should look into this question and in particular the responsibility of the authorities regarding information to the general public.

Poland. It would be useful to take into account problems concerning the organisation of specialised rescue systems in the event of major accident, for example accidents involving chemicals.

Portugal. These instruments should include provisions or guidelines with a view to punishing employers who fail to comply, and require reports on the employers' responsibility for damage caused to society (the environment, workers).

Romania. The constructor of a major hazard installation should be dealt with in the proposed instrument(s).

Spain. Safety reports in respect of imported technologies should comply with the provisions laid down by the exporting countries, in addition to complying with the legal requirements of the member State importing them.

Swaziland. The instruments should deal with a major hazard installation erected on the border of one country which in the case of an accident might affect the population in the adjoining country.

Sweden. The ILO Committee feels that the question of conditions for control room operators and the question of conditions for contracting work in installations which can entail a risk of major accidents should be taken into account in the first-year discussion of the subject. The prime concern must be to facilitate the training of control room operators to deal with emergency situations and the training of contractors in the process and safety systems applying in the installation concerned. The internal alarm signal must be distinguishable from the external one. Furthermore, alarm and warning systems must be designed in such a way as to minimise false alarms and false indications of process disturbances. This should be suitably provided for in the instrument now contemplated.

In the first-year discussion, it should be considered whether there is not reason to raise the question of the employee's right of suspending operations. This has been taken into account in the ILO code of practice.

Turkey. The proposed instrument(s) should provide for measures to be taken by governments to inform the governments of neighbouring countries of any major hazard installation located near the border which may present risks to health and environment beyond the border.

United Kingdom. Requirements are not included to take into account the transboundary effects of major accidents.

United States. Other organisations that are involved in accident prevention, preparedness and response should be taken into consideration when the instrument is being drafted.

Uruguay. The possibility that industrial disasters in countries which have not ratified the Convention may affect countries which have ratified it.

Several replies to this question refer to the problem of cross-border accidents where a major accident in one member State may affect persons in a neighbouring State. Although the proposed instruments do not deal with this matter in specific terms, there are no boundary limitations written into individual provisions such as that requiring a system of major hazard control. The compilation of records is thought by the Office to be substantially a matter of national practice, and the enforcement of the instruments and penalties have been the subject of earlier comments. The special position of transport has been discussed as dealt with in the Proposed Conclusions *(Point 7)*; the same is true as regards specialised training, e.g. for control-room operators, in *Point 12*. It is accepted that serious risks to public health and the environment may arise from industrial causes other than major accidents, but in the opinion of the Office these are outside the intended scope of the proposed instruments, as are such matters as product safety.

PROPOSED CONCLUSIONS

The following are the Proposed Conclusions, which have been prepared on the basis of the replies summarised and commented upon in this report. They have been drafted in the usual form and are intended to serve as a basis for discussion by the International Labour Conference of the fifth item on the agenda of its 79th Session (1992).

Some differences in drafting will be found between the Proposed Conclusions and the Office questionnaire that are not explained in the Office commentaries. These differences are due to concern both for concordance between the various languages and for the terminology to be adapted as far as possible to that already employed in existing instruments.

Form of the international instruments

1. The International Labour Conference should adopt two international instruments concerning the prevention of industrial disasters through a system of major hazard control also called process safety management.

2. The instruments should take the form of a Convention supplemented by a Recommendation.

Preamble

3. The instrument should contain a Preamble referring to relevant ILO instruments, including the Occupational Safety and Health Convention and Recommendation, 1981, and the Chemicals Convention and Recommendation, 1990.

4. The Preamble should provide that the instruments should have regard to the need to ensure that all appropriate measures are taken to *(a)* minimise the risk of major accidents through action against the causes of such accidents and, in particular, those related to component failure, deviations from normal operating conditions, human or organisational errors, outside accidental interference, natural forces, and acts of mischief or sabotage, and *(b)* to mitigate the effects of such accidents.

5. The Preamble should provide that the instruments should have regard to the need for cooperation within the International Programme on Chemical Safety between the International Labour Organisation, the United Nations Environment Programme and the World Health Organization, as well as with other relevant intergovernmental organisations.

Proposed Conclusions with a view to a Convention

I. Definitions and scope

6. For the purpose of the Convention —

(a) the term "hazardous substance" should mean a substance which by virtue of its chemical, physical or toxicological properties constitutes a hazard;

(b) the term "major accident" should mean an unexpected, sudden occurrence — including, in particular, a major emission, fire or explosion — resulting from abnormal developments in the course of an industrial activity, involving one or more hazardous substances and leading to a serious danger to workers, the public or the environment, whether immediate or delayed, inside or outside an installation;

(c) the term "major hazard installation" should mean:

(i) an installation which has or is liable to have on its premises either permanently or temporarily a quantity of a hazardous substance which exceeds the threshold quantity; or

(ii) an industrial installation which stores, processes, produces, handles or uses a hazardous substance in such a form and such a quantity that it possesses the potential to cause a major accident;

(d) the term "threshold quantity" should mean that quantity, prescribed in national laws or regulations, of a hazardous substance which, if exceeded, brings an installation within the category of a major hazard installation.

7. The Convention should provide that:

(a) the following installations and branches of economic activity be excluded from its application:

(i) nuclear installations and plants processing radioactive substances;

(ii) military installations;

(iii)transport outside the site of the installation other than by pipeline;

(b) a Member may, after consultation with the representative organisations of employers and workers concerned, exclude from the application of the Convention such further installations or branches of economic activity for which an equivalent protection is provided.

8. Where special problems of a substantial nature arise so that it is not immediately possible to implement all the preventive and protective measures provided for in this Convention, the Convention should provide that member States should draw up plans for the progressive implementation of the measures concerned.

II. General principles

9. (1) In the light of national laws and regulations, conditions and practice, and in consultation with the most representative organisations of employers and

workers, each Member should formulate and periodically review a coherent national policy for the protection of workers, the public and the environment against the risk of major accidents.

(2) The policy should be implemented through preventive and protective measures for major hazard installations.

10. To enable the identification of major hazard installations, a list of hazardous substances or categories of substances, accompanied where applicable by their threshold quantities for the purposes of point 6 *(c)* (i), should be drawn by the competent authority, or by a body approved or recognised by the competent authority.

III. Preventive and protective measures

Identification

11. Employers should be required to identify any major hazard installation within their control on the basis of the list referred to in Point 10.

Arrangements at the level of the installation

12. In respect of each major hazard installation employers should be required to establish and maintain a system of major hazard control which includes provision for:

(a) the identification and analysis of hazards and the assessment of risks;

(b) the technical and organisational measures necessary for the safe operation of the installation, including:

(i) the proper design, construction, operation and maintenance of the installation;

(ii) the appointment of competent personnel, the proper instruction and training of personnel, and the regular and systematic inspection of the installation;

(c) emergency plans and procedures, including:

(i) the preparation of effective site emergency plans and procedures to be applied in case of major accidents or threat thereof;

(ii) the provision of information on potential accidents and site emergency plans to authorities and bodies responsible for the preparation of emergency plans and procedures for the protection of the public and the environment outside the site of the installation;

(iii) any necessary consultation with such authorities and bodies.

Notification

13. Employers should be required to notify the competent authority of any major hazard installation which they have identified.

Safety report

14. (1) Employers should be required to prepare a safety report containing all necessary information on the measures which have been taken to establish and maintain a system of major hazard control at each major hazard installation.

(2) The report should be prepared:

(a) in the case of existing major hazard installations, within such a period after notification as is prescribed by national laws or regulations;

(b) in the case of any new major hazard installation, before it is put into operation.

15. Employers should be required to review, to update and to amend a safety report:

(a) in the event of a significant modification in the installation or its processes or in the quantities of hazardous substances present;

(b) when developments in technical knowledge or the assessment of hazards make this appropriate;

(c) at such intervals as are prescribed by national laws or regulations.

16. Employers should be required to transmit or make available to the competent authority the safety report referred to in Point 14.

General protective measures

17. The competent authority should ensure that any emergency plans and procedures contain provisions for the protection of the public and the environment outside the site of each major hazard installation which are updated at appropriate intervals.

18. The competent authority should ensure that:

(a) (i) information on safety measures and the correct behaviour to adopt in the case of a major accident is disseminated to members of the public liable to be affected by a major accident without their having to request it;

(ii) such information is updated and re-disseminated at appropriate intervals;

(b) in the case of major accidents, warning is given as soon as possible.

Accident reporting

19. Employers should be required to report a major accident immediately to the competent authority and to other bodies designated for this purpose.

20. Employers should be required as soon as practicable after a major accident to present a detailed report to the competent authority containing an analysis of the causes of that accident and describing any steps taken to mitigate the effects of the accident and to prevent a recurrence.

Siting of major hazard installations

21. The competent authority should establish a siting and land-use policy for major hazard installations to arrange, where appropriate, for their separation from other major hazard installations, from residential and working areas and from public facilities.

Inspection

22. The competent authority should provide specific training for inspectors who are engaged in the inspection of major hazard installations, in the assessment of safety reports and in the investigation of major accidents, and arrange for such technical and professional support as may be necessary.

IV. Rights and duties of workers

Rights of workers

23. The workers employed at the site of a major hazard installation should:

(a) be adequately and suitably informed of the hazards associated with the major hazard installation;

(b) have the right to participate in the preparation of:

(i) the safety report;

(ii) the emergency plans and procedures;

(iii) the accident reports;

(c) be instructed and trained in the procedures and practices for the prevention of major accidents and the emergency procedures to be followed in the event of a major accident.

Duties of workers

24. Workers employed at the site of a major hazard installation should be required to:

(a) comply with all procedures and practices relating to the prevention of major accidents within the major hazard installation;

(b) comply with all emergency procedures should a major accident occur.

Proposed Conclusions with a view to a Recommendation

25. The provisions of the proposed Recommendation should be applied in conjunction with those of the proposed Convention.

26. The Recommendation should provide that the ILO should arrange for an international exchange of information on major accidents and that member States should be encouraged to make reports on major accidents publicly available and, where this is not possible, to exchange reports under specified conditions.

27. The Recommendation should provide that the national policy provided for in the Convention and the national laws and regulations to implement it should, as far as possible, be guided by the ILO code of practice, *Prevention of major industrial accidents*, published in 1991.

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